## **Volume Table of Contents**

0915

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1 211

1 212 1 213

1 214

1 215

1 220

MAP VTOC-1

PART NO.

8488115

8488116

5683227 5683228

5683229 8488664

8488499

8488106

Volume:

04

Title:

MI MAPs 8800-8900

Machine Type:

4321/4331

Power Design Level: B/M Number 4331-1:

4/5 8488467

B/M Number 4331-2:

5683210

B/M Number 4331-11:

4687136

**B/M Number 4321:** 

4687149

400	,	1 -	J

PAGE NUMBER	PART NO.
0 915 0 920 0 930 0 940 0 950 0 960 0 970 0 980 0 990 1 000 1 010 1 020 1 030 1 040 1 050 1 060 1 070 1 100 1 110 1 120 1 130 1 140 1 150 1 160 1 170 1 180 1 190	4687022 8488105 8488119 8488117 8488118 8488121 8488122 8488123 8488123 8488123 8488123 8488123 8488123 8488123 8488133 8488133 8488133 8488133 8488133 8488133 8488133 8488133 8488133 8488133 8488133 8488133 8488133 8488133 8488133

Page	1	of	1
1 age	•	01	•

13SEP82

PN 4687022

EC 366582 PEC 366493

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AAA0915

0915

MAP VTOC-1

#### MAP 8800-1

## REF.CODE 88EXXX01 FIX 0002 CA CHANNEL CHECK LOG MAP

PAGE 1 OF 2

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
RFCA RFCA OCOO 8XXX	A P AA A	1 2 1	001 003 002 001

#### **EXIT POINTS**

EXIT THIS MAP		T0	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	003	0001	А

#### 001

(Entry Point A)

Make sure that you have followed the START MAP 0000 precisely. Another reference code may be more important than the one you have got first.

Are you led to this MAP by the REFCODE **ANALYSIS?** 

Y N

002

(Entry Point AA)

Select the IBM MAINTENANCE and SERVICE SELECTION PROGRAM.

Invoke the REFCODE ANALYSIS.

Key in the reference code from the CA Channel Check LOG.

Go to Page 2, Step 003, Entry Point P.

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REF.CODE 88EXXX01

13SEP82

PN 8488105

AAA0920

EC 366582

PEC 366390

0920

MAP 8800-1



0920

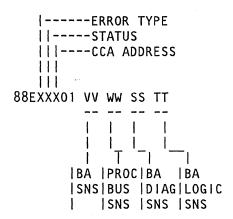
MAP 8800-2

CA CHANNEL CHECK
PAGE 2 OF 2
003

(Entry Point P)

PREREQUISITES: Write down the ref.code and extension

Reference code layout:



If more information is needed about the reference code extension, see Vol. 14, STM FEAT section: CA, (CA Channel Check Log Layout).

Do now the repair as told by the REFCODE ANALYSIS. After the repair Go To Map 0001, Entry Point A.

13SEP82 PN 8488105 EC 366582 PEC 366390

0920 MAP 8800-2

#### MAP 8880-1

## REF.CODE 88BBBB81 FIX 0001 BOARD OR CABLE ERROR

PAGE 1 OF 8

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
8xxx	А	1	001
AA88	А	1	001
3A88	Α	1	001
88AE	Α	1	001
88A0	Α	1	001
88A2	Α	1	001
88A4	Α	1	001
88A6	Α	1	001
88A8	Α	1	001
88B0	Α	1	001
88B2	Α	1	001
8884	Α	1	001
889C	Α	1	001
889E	Α	1	001
8894	Α	1	001

#### **EXIT POINTS**

EXIT TH	IS MAP	T0	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
7	027	0001	A
8	034	0001	A
7	026	0001	P
8	037	0001	P

#### 001

#### (Entry Point A)

- 1.For type of interface of affected line see Configuration Charts (in STM CA Volume 14) starting with page 5010.
- 2. Use Table A to find the appropriate Signal Flow page in STM CA.

#### Table A

==========	=======
INTERFACE	SUPPL.   CA page
=========	======
EIA	2150
CCA W/CLK	
EIA	2160
CCA W/O CLK	
(Step 001 continu	es)

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REF.CODE 88BBBB81

AAA0930

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EC 366582

PEC 366334

0930

MAP 8880-1



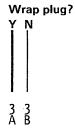
0930

## BOARD OR CABLE

PAGE 2 OF 8

(Step 001 continued)		
I NT MOD		
WT SNAA	2200   	
I INT MOD		
WT LL	2220	
INT MOD     US SNMA	   2240	
	2240	
I INT MOD	İ	
US SNAA	2240	
INT MOD		
US LLSM	2260	
INT MOD		
US LL	2260	
I INT MOD		
US LLSB	2280	
X.21 XLCA		
i v35	2320	
HSDI	8200	
DDS	2420	
LOCAL ATT	2520   	
ACA	2610	

Suspected FRUs:
Board 01A-C2 or 01A-B2 (Note1)
Internal cable
External cable
IF Card 01A-C2.. or 01A-B2..(Note1)
1.Power off.
2.Remove the adapter card
from the failing line.



Note 1: For physical locations see the referenced page given in Table A.

> 13SEP82 PN 8488119 EC 366582 PEC 366334 0930 MAP 8880-2



REF.C.88BBBB81 **BOARD OR CABLE** PAGE 3 OF 8 002 Go to Page 4, Step 012, Entry Point CX. 003 Connect plug. Cable wrap connector present? Y N 004 Go to Page 4, Step 012, Entry Point CX. 005 (Entry Point BX) Use an OHM meter and measure all the wrapped signal lines from test points C-OUT TO C-IN. There should be connection between C-OUT and C-IN. 006 Measure the failing signal line(s) from test

Line(s) ok? ΥN

point(s) D-IN TO C-IN.

There should be connection between D-IN and C-IN.

CDE

Line(s) ok?

CDE

0930

MAP 8880-3

007

Measure the failing signal line(s) from test point(s) D-IN to D-OUT.

There should be connection between D-IN and D-OUT.

Line(s) ok?

Y N

800

Go to Page 5, Step 017, Entry Point DD.

009

Failing FRU:

Board (For physical location see Supplement CA page indicated in Table A, step 001 of this MAP.)

Go to Page 8, Step 033, Entry Point CC.

010

Failing FRU:

Board (For physical location see Supplement CA page indicated in Table A, step 001 of this MAP.)

Go to Page 8, Step 033, Entry Point CC.

011

Go to Page 4, Step 012, Entry Point CX.

13SEP82 PN 8488119 EC 366582 PEC 366334 MAP 8880-3

0930

PAGE 4 OF 8

#### 012 (Entry Point CX)

Disconnect the external cable from external equipment (CBS or CDT couplers, phone plug etc.)

Use an OHM meter and measure all signal lines from test point(s) 'C' (I/F adapter card tab pins) to the external cable connector.

There should be connection between test point(s) 'C' and cable connector.

#### All signal lines ok?

YN

#### 013

Measure failing signal line(s) from test point(s) 'D' (board connector pins) to the external cable connector (at modem end of the cable).

There should be connection between test point(s) 'D' and cable connector.

#### All signal lines ok?

Y N

014

Go to Page 5, Step 017, Entry Point DD.

#### 015

Failing FRU:

Board (for pysical location see Supplement CA page indicated in Table A, step 001 of this MAP.)

Go to Page 8, Step 033, Entry Point CC.

016

Go to Page 6, Step 020, Entry Point BB.

0930

MAP 8880-4

13SEP82

PN 8488119

EC 366582

PEC 366334

0930

MAP 8880-4

PAGE 5 OF 8

#### 017 (Entry Point DD)

Disconnect the external cable from the tailgate O1F.

Measure the failing signal line(s) from test point(s) 'D' to tailgate 01E.

There should be connection between test point(s) 'D' and tailgate 01E.

#### Line(s) ok?

ΥN

018

Failing FRU: Internal cable

Go to Page 8, Step 033, Entry Point CC.

#### 019

Failing FRU:

o Line Plate
(if WT Public Switched
Network Feature is installed.
o External cable

Go to Page 8, Step 033, Entry Point CC.

Note: Before removing Line Plate and external cable perform Line Plate adjustment. See Vol. 14, STM FEAT, section: CA (Integrated Modem Adapter Interface WT SNAA, Jumper Setting of PSN Feature).

13SEP82

PN 8488119

EC 366582

PEC 366334

0930

MAP 8880-5



PAGE 6 OF 8

#### 020 (Entry Point BB)

Disconnect the cable wrap plug (if present).

- 1. There should be no connection between C-OUT and C-IN.
- 2.Also measure to see if the lines are connected to ground. Measure each C-OUT and C-IN pin to ground (Note 1).
- 3.Measure also if you have any connection between a C-OUT to another C-OUT or C-IN.

There should be no connection between the lines in any of these three steps.

#### Note 1:

For local attachment interface, the signals
Transmit Data RTN
Receive Data RTN
Transmit Clock RTN
Test Clock RTN
should all be connected to ground.
For HSD Interface, the signals 'GND' are
connected to ground on the Interface Card.

#### Any connection?

ΥN

021

No board or cable errors found

Connect external equipment.

#### (Entry Point AX)

Run ILT 21 or 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

#### Test result satisfactory?

Y N

022

Same reference code as before?

ΥN

023

Follow new reference code.

13SEP82

PN 8488119

EC 366582

PEC 366334

0930

MAP 8880-6

7 7 7 F G H





PAGE 7 OF 8

O24
Was the IF card replaced earlier during this trouble shooting?

Y N

O25
Replace IF card of failing line.
Go to Page 6, Step 021,
Entry Point AX.

O26
Go To Map 0001, Entry Point P.

O27
Go To Map 0001, Entry Point A.

O31
Failing FRU:
Internal cable
Go to Page 8, Step 033, Entry Point CC.

032
Failing FRU:
External cable
Go to Page 8, Step 033, Entry Point CC.

0930

MAP 8880-7

J K

028

Disconnect external cable from the tailgate 01E.

Repeat the measurement for the failing signal(s) at test point 'C'.

Signal line(s) ok?

NY

029

Disconnect the internal cable from the board, repeat the measurement at test point(s) 'C.'

Signal line(s) ok?

Y N

030

Failing FRU:

Board (For physical location see Supplement CA page indicated in Table A, step 001 of this MAP.)

Go to Page 8, Step 033, Entry Point CC.

13SEP82 PN 8488119 EC 366582 PEC 366334 0930 MAP 8880-7

JΚ



PAGE 8 OF 8

033 (Entry Point CC)

Replace or repair the failing FRU.

Run ILT 21 or 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Any error?
Y N

034 Go To Map 0001, Entry Point A.

035

Same reference code as before?

ΥN

036

Follow new reference code.

037

Go To Map 0001, Entry Point P.  $\,$ 

0930

MAP 8880-8

13SEP82 PN 8488119 EC 366582 PEC 366334 0930 MAP 8880-8



### **REF.CODE 88B0XX81 FIX 0000** ACA I/F CARD WRAP ERROR

PAGE 1 OF 5

EXIT POI	NTS		
EXIT TH	IS MAP	T0	
PAGE	STEP	MAP	ENTR
NUMBER	NUMBER	NUMBER	POIN
5	014	0001	A
5	018	0001	P
5	021	0001	P

0940

MAP 8882-1

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

#### 001 (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

=========	
REFERENCE	:
CODE	PAGE
88B01081	2600
  88B01481	2600
88B01881	2600
188B01C81	2600
=========	

#### Possible failing FRUs:

- ACU card 1, 2; 01A-B2S2, S4
- CA card 1; 01A-B2T2
- Board 01A-B2

The 'additional information' (reference MAP 8886) must be used to determine the failing signal.

#### (Step 001 continues)

© Copyright IBM Corp. 1982 REF.CODE 88B0XX81 AAA0940

13SEP82 PN 8488117 EC 366582 PEC 366334 0940 MAP 8882-1 PAGE 2 OF 5

(Ste	p 001	continue	d)
0n	the	screen	>88B0XX81YYYY

Digit 1, 2, 3 and 4 hold coded information about the signals being wrapped.

Digit 1 + 2 =expected signals Digit 3 + 4 =received signals

To find the signal names and the failing signal, do the following:

Write down the value of digit 1 + 2 - one byte in binary notation - bit 0 - 7

Write down the value of digit 3 + 4 - one byte in binary notation - bit 0 - 7

Compare the two binary values bit by bit.

DIGIT	HEX	BINARY VALUE
.	VALUE	I BITS I
1	ONE BYTE	0 1 2 3 4 5 6 7 1
1+2		1
3+4		
UNEQUA	AL BITS->	!

An unequal bit position indicates a failing signal.

(Step 001 continues)

13SEP82 PN 8488117 EC 366582 PEC 366334 0940 MAP 8882-2

0940

MAP 8882-2

## REF.C.88B0XX81 ACA I/F CARD WRAP

PAGE 3 OF 5

(Step 001 continued)
Note:
Digit 1 + 2 = expected signals
Digit 3 + 4 = received signals
Bit on = active signal
Bit off = inactive signal

Bit 0 (not used)

Bit 1
----> ACU Select FL

Bit 2
----> Card Wrap

Bit 3
----> Power Indicator

Bit 4
----> Present Next Digit

Bit 5
----> Data Line Occupied

----> Abandon Call And Retry

Bit 7
----> Distant Station Connected

ACU Select FL. (BIT 1) is an internal signal on the CA card 1, 01A-B2T2.

Is bit position 1 unequal?

Bit 6

B 0940 MAP 8882-3

002

Start ILT 21, mode LA (scope loop). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi Latch: none Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

#### **IMPORTANT**

When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal probing'.

#### Note:

If more than one signal is failing, select one as the 'failing signal' and go through the MAP checking only this signal.

#### (Entry Point SS)

Probe the failing signal at test point A-IN.

Signal ok?
Y N

003
Probe the failing signal at test point B-OUT.

Signal ok?
Y N

13SEP82 PN 8488117 EC 366582 PEC 366334 C D E 0940 MAP 8882-3



REF.C.88B0XX81 0940 MAP 8882-4 **ACA I/F CARD WRAP** PAGE 4 OF 5 004 011 Probe the failing signal at test point B-IN. Failing FRU: CA card 1: 01A-B2T2 Signal ok? Go to Page 5, Step 012, Entry Point CC. Y N 005 Probe the failing signal at test point A-OUT. Signal ok? Y N 006 Failing FRU: CA card 1; 01A-B2T2 Go to Page 5, Step 012, **Entry Point CC.** 007 Failing FRU: Board 01A-B2 Go to Page 5, Step 012, **Entry Point CC.** 800 Failing FRU: ACU card 1, 2; 01A-B2S2, S4 Go to Page 5, Step 012, Entry Point CC. 009 Failing FRU: Board 01A-B2 Go to Page 5, Step 012, Entry Point CC. 010 Failing FRU: CA card 1; 01A-B2T2

Go to Page 5, Step 012, Entry Point CC.

13SEP82 PN 8488117 EC 366582 PEC 366334 0940 MAP 8882-4





## REF.C.88B0XX81

**ACA I/F CARD WRAP** 

PAGE 5 OF 5

012

(Entry Point CC)

Was the 'failing FRU' replaced earlier during this trouble shooting?

YN

013

Replace or repair the failing FRU.
Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see
Vol.14, STM FEAT,
section: CA
(CA Inline Test)

Any error?

ΥN

014

Go To Map 0001, Entry Point A.

015

Same reference code as before?

ΥN

**វ**16

Follow new reference code.

017

(Entry Point TT)

Is more than one signal failing?

Y N

018

Go To Map 0001, Entry Point P.

0940

0 MAP 8882-5

019

F G

Are all the failing signals checked?

Y N

020

Select the next failing signal as the 'failing signal'.

Go to Page 3, Step 002, Entry Point SS.

021

Go To Map 0001, Entry Point P.

022

Go to Step 017, Entry Point TT.

13SEP82

PN 8488117

EC 366582

PEC 366334

0940

MAP 8882-5

F G



### **REF.CODE 88C0XX81 FIX 0000**

#### **ACA PLUG WRAP ERROR**

PAGE 1 OF 6

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	А	1	001

#### **EXIT POINTS**

EXIT TH	ÍS MAP	то		
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT	
6	028	0001	Α	
6	032	0001	Р	
6	035	0001	٠P	
4	015	8880	Α	

0950

MAP 8884-1

#### 001 (Entry Point A)

Go to Vol. 14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

#### Table A

=========	
REFERENCE  **CODE**	SUPPL.CA     PAGE
88co1081	2610
88co1481	2610
88c01881	2610
188co1c81	2610

#### Possible failing FRUs:

- ACU card 1, 2; 01A-B2S2, S4
- CA card 1; 01A-B2T2
- Board 01A-B2
- Cable

The 'additional information' (reference MAP 8886) must be used to determine the failing signal.

#### (Step 001 continues)

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REF.CODE 88C0XX81	
AAA0950	

13SEP82	PN 8488118
EC 366582	PEC 366334
0950	MAP 8884-

PAGE 2 OF 6

(Step 001 continued)

being wrapped.

On the screen ---->88COXX81YYYY

--Additional information---->YYYY
Digit ------1234
----->1		
	----->3	
Digit 1, 2, 3 and 4 hold coded information about the signals

Digit 1 + 2 =expected signals Digit 3 + 4 =received signals

To find the signal names and the failing signal, do the following:

Write down the value of digit 1 + 2 - one byte in binary notation - bit 0 - 7

Write down the value of digit 3 + 4 - one byte in binary notation - bit 0 - 7

Compare the two binary values bit by bit.

DIGIT  HEX							ALI	JE	
	ONEBYTE						5	6	7
1+2	1 0	0	0	0	1	0	0	0	0
3+4	1 4	0	0	0	1	0	1	0	0
UNEQUAL BITS-> 1 1 1									

An unequal bit position indicates a failing signal. (Step 001 continues)

0950 MAP 8884-2

13SEP82 PN 8488118 EC 366582 PEC 366334 0950 MAP 8884-2

## REF.C.88C0XX81 **ACA PLUG WRAP** PAGE 3 OF 6

(Step 001 continued)

Note:

Digit 1 + 2 =expected signals Digit 3 + 4 = received signalsBit on = active signal

Bit off = inactive signal

Bit 0 (not used)

Bit 1

----> ACU Select FL

----> Card Wrap

----> Power Indicator

Bit 4

----> Present Next Digit

----> Data Line Occupied

----> Abandon Call And Retry

BIT 7

----> Distant Station Connected

ACU Select FL. (bit 1) is an internal signal on the CA card 1; 01A-B2T2.

Is bit position 1 unequal?

0950

MAP 8884-3

002

В

Start ILT 22, mode LA (scope loop).

For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follow:

Technology: multi Latch: none Gate REF: GND

Connect the power leads from the CE probe as

follows:

Red lead to: 01A-A2E2D03 (+5V) Black lead to: 01A-A2E2D08 (GND)

**IMPORTANT** 

When going through the following probing procedure, use the page in Supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph

'signal checking'.

Note:

If more than one signal is failing, select one as the 'failing signal' and go through the MAP checking only this signal.

Is bit 5 unequal?

Y N

003

(Entry Point BB)

Probe the failing signal at test point A-IN.

Signal ok? ΥN

13SEP82

PN 8488118

EC 366582

PEC 366334

0950

MAP 8884-3

J K L REF.C.88C0XX81 0950 MAP 8884-4 **ACA PLUG WRAP** PAGE 4 OF 6 004 009 Probe the failing signal at test point B-OUT. Probe the failing signal at test point B-IN. Signal ok? Signal ok? Y N Y N 005 010 Probe the failing signal at test point C-IN. Probe the failing signal at test point A-OUT. Signal ok? Y N Signal ok? Y N Probe the failing signal at test point 011 D-OUT. Failing FRU: CA card 1; 01A-B2T2 Signal ok? Go to Page 6, Step 026, Y N **Entry Point CC.** 007 012 Failing FRU: Probe the failing signal at test point D-IN. Board 01A-B2 Go to Page 6, Step 026, Signal ok? **Entry Point CC.** Y N 013 Failing FRU: Probe the failing signal at test point ACU card 1, 2; 01A-B2S2, S4 C-OUT. Go to Page 6, Step 026, Entry Point CC. Signal ok? 014 Failing FRU: Board 01A-B2 Go to Page 6, Step 026, Entry Point CC. 015 Failing FRU: Board 01A-B2, cable or tailgate 01E Go To Map 8880, Entry Point A. 13SEP82 PN 8488118 EC 366582 PEC 366334 0950 MAP 8884-4



A M N 3 . . REF.C.88C0XX81 0950 MAP 8884-5 **ACA PLUG WRAP** PAGE 5 OF 6 016 023 Failing FRU: Failing FRU: Board 01A-B2 CA card 1; 01A-B2T2 Go to Page 6, Step 026, Go to Page 6, Step 026, Entry Point CC. Entry Point CC. 024 017 Failing FRU: Failing FRU: Board 01A-B2 ACU card 1, 2; 01A-B2S2, S4 Go to Page 6, Step 026, Entry Point CC. Go to Page 6, Step 026, Entry Point CC. 025 Failing FRU: 018 CA card 1; 01A-B2T2 Failing FRU: Board 01A-B2 Go to Page 6, Step 026, Entry Point CC. Go to Page 6, Step 026, Entry Point CC. 019 Failing FRU: CA card 1; 01A-B2T2 Go to Page 6, Step 026, Entry Point CC. 020 Probe Test Control at test point B-IN. Down level? ΥN 021 Go to Page 3, Step 003, Entry Point BB. 022 Probe Test Control at test point A-OUT. Signal ok? Y N 13SEP82 PN 8488118

MN

EC 366582 PEC 366334 0950 MAP 8884-5

## REF.C.88C0XX81 **ACA PLUG WRAP** PAGE 6 OF 6 (Entry Point CC) Was the 'failing FRU' replaced earlier during this trouble shooting? Y N 027 Replace or repair the failing FRU. Run ILT 22, mode S (single run) to verify correct operation. For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test). Any error? YN 028 Go To Map 0001, Entry Point A. 029 Same reference code as before? 030 Follow new reference code. 031 (Entry Point TT) Is more than one signal failing? Y N 032

Go To Map 0001, Entry Point P.

```
Are all the failing signals checked?
   Y N
     034
     Select the next failing signal as the 'failing
     Go to Page 3, Step 003, Entry Point BB.
  035
  Go To Map 0001, Entry Point P.
036
Go to Step 031, Entry Point TT.
```

0950

MAP 8884-6

P Q

13SEP82 PN 8488118 EC 366582 PEC 366334 0950 MAP 8884-6

026

#### REF.CODE 88XXXXX81 FIX 0001

#### LINK TO CA MAPS

PAGE 1 OF 3

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	· A	1	001

#### **EXIT POINTS**

EXIT TH	IS MAP	ТО	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	001	0001	0

0960

MAP 8886-1

001 (Entry Point A)

Try again to look up the error reference code in the reference code directory  $8\mathsf{XXX}$ .

If the reference code doesn't match with anyone listed there invoke your support structure.

Write down all necessary information, see also the following reference code breakdown.

(Step 001 continues)

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AAA0960

13SEP82

PN 8488111

EC 366582

PEC 366388

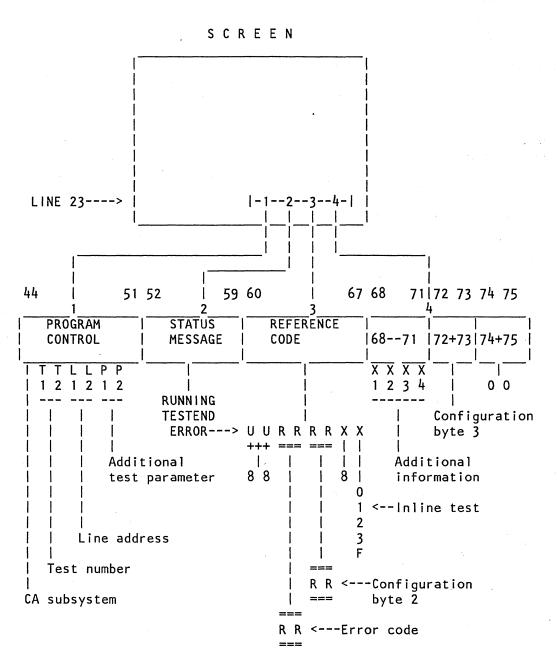
0960

MAP 8886-1

## REF.C.88XXXX81 LINK TO CA MAPS

PAGE 2 OF 3

(Step 001 continued)



(Step 001 continues)

13SEP82 PN 8488111 EC 366582 PEC 366388 0960 MAP 8886-2

## REF.C.88XXXX81 LINK TO CA MAPS

PAGE 3 OF 3

(Step 001 continued)

Invoke your support structure.

Go To Map 0001, Entry Point 0.

0960

MAP 8886-3

13SEP82

PN.8488111

EC 366582

PEC 366388

0960

MAP 8886-3

#### **CA-BA TEST MAP**

PAGE 1 OF 5

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT		STEP NUMBER
RFCA	А	1	001
RFCA	V ·	3	004
0000	Α	1	001
8XXX	Α	1	. 001
8400	Α	1	001
AA88	Α	1	001
88AC	Α	1	001
88AE	Α	1	001
0A88	Α	1	001
88A2	' A	1	001
88A4	A	1	001
88A6	A	1	001
88A8	Α	1	001
88B0	A	1	001
88B6	Α	1	001
8884	A	1	001
889A	A	1	001
889C	A	1	001
889E	A	1	001
8894	A	1	001
8896	A	1	001

#### **EXIT POINTS**

EXIT TH	IS MAP	T0	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
3	005	0001	A
5	014	0001	A
4	011	0001	O
5	013	0001	O

001 (Entry Point A)

Y N

Are you led to this MAP by the REFCODE ANALYSIS?

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AAA0970

13SEP82 PN 8488120 EC 366582 PEC 366390 0970 MAP 8888-1



Select the IBM MAINTENANCE and SERVICE SELECTION PROGRAM.

Invoke the REFCODE ANALYSIS.

Key in the reference code from the CA-BA test and the first displayed symptom code. Go to Step 003, Entry Point P.

003 (Entry Point P)

Do now the repair as told by the REFCODE ANALYSIS program.

After the repair, do the verification. Go to Page 3, Step 004, Entry Point V.

13SEP82

PN 8488120

EC 366582

PEC 366390

0970

MAP 8888-2

## CA-BA TEST MAP

PAGE 3 OF 5

004 (Entry Point V)

Verification:

After the repair run the test chaining.

Any error?

ΥN

005

Go To Map 0001, Entry Point A.

006

Same symptoms as originally indicated?

ΥN

007

The new card may also be defective. Correct it, then

Go to Step 004, Entry Point V.

008

Are all suspected FRUs replaced as shown by the REFCODE ANALYSIS?

(If, after a card exchange, the test shows the same error symptoms, re install the old card before exchanging the next one.)

ΥN

009

Replace the next FRU, then Go to Step 004, Entry Point V.

13SEP82

PN 8488120

EC 366582

PEC 366390

0970

MAP 8888-3

4

```
REF.C.88000081

CA-BA TEST MAP

PAGE 4 OF 5
```

0970 MAP 8888-4

It is also possible that one or more CCAs with higher line number(s) is/are faulty.

Check if:

С 3

010

- o more than one symptom code is displayed and
- o more than one communication line is installed and
- o byte 2 of the symptom code (line address) contains a value from 30 to 37

Symptom code layout

Do the three conditions listed above exist?

Y N
011
Go To Map 0001, Entry Point O.

#### 012

The error might be caused by any other CCA card than that indicated by the first symptom code.

Check especially the CCAs with higher line numbers.

CCA Card 1; 01A-C2W2
CCA Card 2; 01A-C2U2
CAA Card 3; 01A-C2T2
CAA Card 4; 01A-C2R2
CAA Card 5; 01A-C2Q2
CCA Card 6; 01A-C2N2
CCA Card 7; 01A-C2M2
CCA Card 8; 01A-C2K2

(Step 012 continues)

13SEP82 PN 8488120 EC 366582 PEC 366390 0970 MAP 8888-4

# REF.C.88000081 CA-BA TEST MAP

PAGE 5 OF 5

(Step 012 continued)
Error found?
Y N
013
Go To Map 0001, Entry Point O.

014 Go To Map 0001, Entry Point A.

13SEP82

PN 8488120

EC 366582

PEC 366390

0970

MAP 8888-5



## **REF.CODE 8820XX81 FIX 0000** PRE-BA OR BA ERROR

PAGE 1 OF 1

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP	ENTRY	PAGE	STEP
NUMBER	POINT	NUMBER	NUMBER
RFCA	B	1	001
RFCA	V	1	001
8XXX	A	1	001

#### 001

(Entry Point A)

#### (Entry Point B)

Reference code 8820XX81 indicates an error in the CA-BA card or in a component logically in front of the CA-BA card.

Replace the suspected FRUs according to the priority that is shown by the REFCODE ANALYSIS.

#### (Entry Point V)

#### **VERIFICATION:**

- \* Run the offline CA-BA diagnostics. Refer to Vol. 14, STM FEAT, section: CA (CA-BA Test) and follow MAP pointed to by this test.
- \* Also run ILT 21 OR 22, mode S (single run) to verify correct operation. For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

If The tests show still an error, follow the test descriptions for repair, then run the tests again. \* After the repair

go to MAP 0001, ENTRY POINT A.

© Copyright IBM Corp. 1982 **REF.CODE 8820XX81** 

13SEP82 PN 8488121

EC 366582 PEC 366390

AAA0980

0980

MAP 888A-1

			1
			1
			i i
			1
			- 1 · 1
			1
			1
			,
	·		
			* 1
			1
			· · ·
			Z 1
			1
			· · · · · · · · · · · · · · · · · · ·
			.*
			/
			ř
			<i>,</i>
			N.



#### REF.CODE 8840XX81 FIX 0000

#### **BA-CCA ERROR**

PAGE 1 OF 2

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	А	1	001

#### **EXIT POINTS**

EXIT THIS MAP		T0	
PAGE STEP NUMBER NUMBER		MAP NUMBER	ENTRY POINT
2	004 007	0001 0001	A

0990

MAP 888C-1

001 (Entry Point A)

(Entry Point B)

Possible failing FRU:

- CCA card of tested line
- CA card 1; 01A-B2T2
- CA bus tag;
- from 01A-B2X4 to 01A-C2ZC CA bus data;
- from 01A-B2X5 to 01A-C2ZD CCA card of any other line
- Board 01A-B2 or 01A-C2

Visually check that the suspected cards are properly seated.

Run CA-BA test.

For run procedure refer to Vol. 14, STM FEAT, section: CA (CA-BA Test).

## Any error?

Y N

#### กกว

Follow MAPs pointed to by this test.

After repair action, run ILT 21 or 22 to verify correct operation.

For ILT run procedure see Vol. 14, STM FEAT,

section: CA (CA Inline Test).

© Copyright IBM Corp. 1982 REF.CODE 8840XX81 AAA0990 13SEP82 PN 8488122 EC 366582 PEC 366388 0990 MAP 888C-1

For physical locations refer to Vol. 14, STM FEAT,

section: CA (Physical Locations).

003

Replace the CCA card for line tested.

## (Entry Point V)

Run ILT 21 or 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol. 14, STM FEAT,

section: CA (CA Inline Test).

Any error?

Y N

004

Go To Map 0001, Entry Point A.

005

Same reference code as before?

Y N

006

Follow MAPs pointed to by new reference code.

#### 007

Suspected now:

- CA card 1; 01A-B2T2
- CA bus tag;

from 01A-B2X4 to 01A-C2ZC

- CA bus data;
- from 01A-B2X5 to 01A-C2ZD
- CCA card of any other line
- Board 01A-B2 or 01A-C2

After the repair,

Go To Map 0001, Entry Point A.

13SEP82

PN 8488122

EC 366582

PEC 366388

0990

0990

MAP 888C-2

MAP 888C-2

# REF.CODE 8850XX81 FIX 0001. CCA BASIC ERROR

PAGE 1 OF 2

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	А	1	001

#### **EXIT POINTS**

EXIT THIS MAP		то		
PAGE STEP NUMBER NUMBER		MAP NUMBER	ENTRY POINT	
2	003	0001	А	
2	007	0001	Α	
2	012	0001	Α	
2	010	0001	0	

## 001 (Entry Point A)

Reference code 8850XX81 indicates that a CCA basic test has failed.

Possible failing FRU is CCA card.

Also, the line procedure board wiring may be wrong.

Visually check the board wiring for the line procedure.

Refer to Vol. 14, STM FEAT,

section: CA (Board 01A-C2 wiring) and to the CA Configuration Chart for the installation.

Any error?

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13SEP82 PN 8488123 EC 366582 PEC 366493 1000 MAP 888E-1



REF.C.8850XX81 **CCA BASIC ERROR** PAGE 2 OF 2 002 (Entry Point B) Replace the CCA card (of failing line); 01A-C2.. Run ILT 21, mode S (single run) to verify correct operation. For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test). Any error? YN 003 Go To Map 0001, Entry Point A. 004 Same reference code as before? YN 005 Follow new reference code. 006 Suspect also: Cable 01A-B2X4 to 01A-C2ZC Cable 01A-B2X5 to 01A-C2ZD Run ILT 21, mode S again. Any error? Y N 007 Go To Map 0001, Entry Point A. 800 Same reference code as before? Y N 009 Follow the new reference code.

Any error?
Y N

012
Go To Map 0001, Entry Point A.

013
Same reference code as before?
Y N

014
Follow new reference code.

015
Go to Step 002, Entry Point B.

section: CA (CA Inline Test).

13SEP82 PN 8488123 EC 366582 PEC 366493 1000 MAP 888E-2



## REF.CODE 886XXX81 FIX 0001 CCA CARD WRAP ERROR

PAGE 1 OF 2

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	А	1	001

#### **EXIT POINTS**

EXIT THIS MAP		ТО	
PAGE STEP NUMBER NUMBER		MAP NUMBER	ENTRY POINT
2	003	0001	A
2	010	0001	Α
2	006	0001	Р

1010

MAP 8890-1

001 (Entry Point A)

Reference code 886XXX81 indicates that a CCA wrap test has failed.

Possible failing FRU: CCA card (of failing line); 01A-C2..

Also the board wiring for the transmission rate may be wrong.

## CCA clocking?

ΥN

#### 002

(Entry Point BB)

Replace CCA card (of failing line); 01A-C2..

For physical locations refer to Vol. 14, STM FEAT, section: CA (Physical Locations).

Run ILT 21 or 22, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

## Any error?

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REF.CODE 886XXX81

B C AAA1010

13SEP82

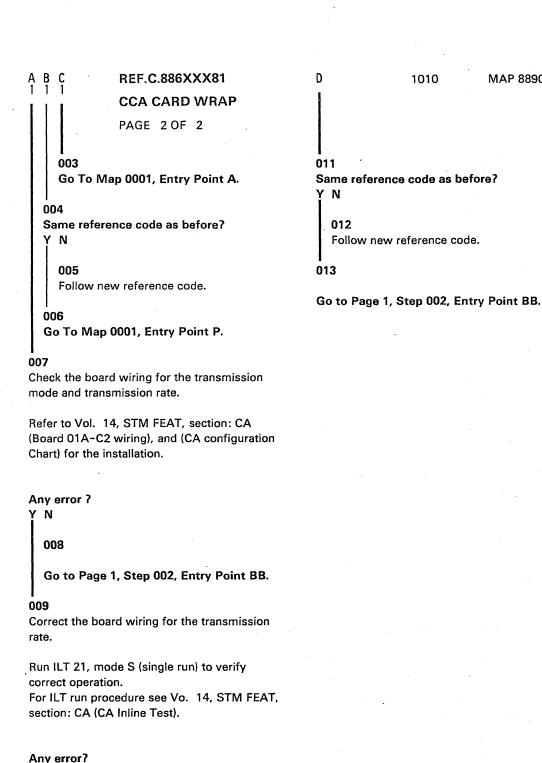
PN 8488124

EC 366582

PEC 366334

1010

MAP 8890-1



Y N

010

Go To Map 0001, Entry Point A.

13SEP82 PN 8488124 EC 366582 PEC 366334 1010 MAP 8890-2

MAP 8890-2



## REF.CODE 88A1XX81 FIX 0001 SELF TEST PLUG WRAP ERROR

PAGE 1 OF 7

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	А	1	001

#### **EXIT POINTS**

EXIT THIS MAP		ТО	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	Α
6	027	0001	Α
7	033	0001	Р

1020

MAP 8892-1

## 001 (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

#### Table A

========	
REF.CODE	
	=======
88A11081	2180
88A11481	2180
88A11881	2170
188A11C81	2170 l

## Possible Failing FRUs:

- CCA card (of failing line); 01A-C2..
- IF card (of failing line);01A-C2..
- Board 01A-C2
- Cables
- Self test wrap plug

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1: For physical locations see the referenced page given in Table A.

> 13SEP82 PN 8488112 EC 366582 PEC 366334 1020 MAP 8892-1

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REF.CODE 88A1XX81
AAA1020



PAGE 2 OF 7

(Step 001 continued) -IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

Y N

Go to Page 3, Step 006, Entry Point BB.

Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

1020

MAP 8892-2

13SEP82

PN 8488112

EC 366582

PEC 366334

1020

PAGE 3 OF 7

## 006

(Entry Point BB)

The 'additional information' (ref. MAP 8886) must now be used to determine the failing signal.

On the screen ---->88A1XX81YYYY ---Additional information--->YYYY
Digit -----1234

1 3
|------|
|
|
|
|
|
|
|
|
|
Digit 1 and digit 3 hold coded information about the signals being wrapped.

Digit 1 = expected signals Digit 3 = received signals

To find the signal names and the failing signal, do the following:

Write down the value of digit 1 in binary notation.

Write down the value of digit 3 in binary notation.

Compare the two binary values bit by bit.

DIGIT	HEX	VALUE	BINAR		
1 1					 
3			i 	_=_=	¦
UNEQUA			>	_=_=.	
(Step 006	contin	ues)			

13SEP82 PN 8488112 EC 366582 PEC 366334

1020



PAGE 4 OF 7

(Step 006 continued)

An unequal bit position indicates a failing signal.

#### Note:

Digit 1 = expected signals Digit 3 = received signals Bit on = active signal Bit off = inactive signal

Bit 0

----> Data Set Ready

Bit 1

----> Clear To Send

Bit 2

----> Rcv. Line Signal Detect

Bit 3

----> Ring Indicator

Start ILT 24, mode LI (scope loop), for ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE-probe as follows:

Technology: multi Latch: none Gate REF: GND

Connect the power leads from the CE-probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

#### **IMPORTANT**

When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Note:

(Step 006 continues)

13SEP82 PN 8488112 EC 366582 PEC 366334

1020



PAGE 5 OF 7

(Step 006 continued)

If more than one signal is failing, select one as the 'failing signal' and go through the MAP checking only this signal.

#### (Entry Point SS)

Probe the failing signal at test point A-IN.

Signal ok? ΥN 007 Probe the failing signal at test point B-OUT. Signal ok? Y N Probe the failing signal at test point C-IN. Signal ok? YN 009 Probe the failing signal at test point D-OUT. Signal ok? ΥN Probe the failing signal at test point D-IN. Signal ok?

F 1020 MAP 8892-5

011

Probe the failing signal at test point C-OUT.

Signal ok?

Y N

012

Probe the failing signal at test point B-IN.

Signal ok?

Y N

013

Probe the failing signal at test point A-OUT.

Signal ok?

ΥN

014

Failing FRU:

CCA card (of failing line); 01A-C2..

Go to Page 6, Step 025, Entry Point CC.

015

Failing FRU:

Board 01A-C2

Go to Page 6, Step 025, Entry Point CC.

016

Failing FRU:

IF card (of failing line); 01A-C2..

Go to Page 6, Step 025, Entry Point CC.

017

Failing FRU:

Board01A-B2

Go to Page 6, Step 025, Entry Point CC.

13SEP82 PN 8488112

EC 366582 PEC 366334

```
G H J
```

REF.C.88A1XX81

**SELF TEST PLUG WRAP** 

PAGE 7 OF 7

031

(Entry Point ZZ)

Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

ΥN

032

Replace next FRU. Go to Page 6, Step 026,

Entry Point XX.

033

Go To Map 0001, Entry Point P.

034

Are all the failing signals checked?

ľN

035

Select the next failing signal as the 'failing signal'.

Go to Page 5, Step 006, Entry Point SS.

036

Go to Step 031, Entry Point ZZ.

037

Go to Page 6, Step 030, Entry Point TT.

13SEP82

PN 8488112

EC 366582

PEC 366334

1020



#### MAP 8894-1

# REF.CODE 8871XX81 FIX 0003 INTERFACE CARD WRAP ERROR

PAGE 1 OF 9

## **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	А	1	001

## **EXIT POINTS**

EXIT THIS MAP		то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3 6 8 9 8 9	004 024 046 053 047 054 028	0001 0001 0001 0001 8880 8880 8880	A P P A A

## 001

## (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

========	=====	========	======
:	SUPPL   CA	REF.CODE	SUPPL   CA
		=======	 
188711081	2120	88719881	2240
88711881	2110	8871A881	2260
88712081	2310	8871B881	2220
88713081		8871C881	
88715081			
		[	
		8871D881	
188719081	2510	8871E881	2200

## (Step 001 continues)

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# REF.C.8871XX81 IFC WRAP ERROR

PAGE 2 OF 9

(Step 001 continued)

Possible Failing FRUs (Note 1):

- CCA card (of failing line); 01A-C2..
- IF card (of failing line); 01A-C2..
- Board 01A-C2

If X.21 XLCA adapter is installed:

- -Cables and connectors from board 01A-C2 to DCE (Data Communication Equipment)
- -DCE

Visually check all hardware components of the failing communication line:

- -IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)
- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

Y N

002

Go to Page 3, Step 006, Entry Point BB.

Note 1:

For physical locations see the referenced page given in Table A.

1030

MAP 8894-2

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 8488125

EC 366582

PEC 366334

1030

MAP 8894-2

3



REF.C.8871XX81

IFC WRAP ERROR

PAGE 3 OF 9

003

Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N
004
Go To Map 0001, Entry Point A.
005

Go to Step 006, Entry Point BB.

1030

MAP 8894-3

006

(Entry Point BB)

being wrapped.

The 'additional information' (reference MAP 8886) must now be used to determine the failing signal.

Digit 1 = expected signals Digit 3 = received signals

To find the signal names and the failing signal, do the following:

Write down the value of digit 1 in binary notation.

Write down the value of digit 3 in binary notation.

Compare the two binary values bit by bit.

DIGIT	HEX		BIT	0 1	2 3
1 1			·    ·		=-=-
3					i
UNEQUA	AL BIT	ΓS	·>		i

(Step 006 continues)

13SEP82 PN 8488125 EC 366582 PEC 366334 1030 MAP 8894-3

## REF.C.8871XX81 IFC WRAP ERROR

PAGE 4 OF 9

(Step 006 continued)
An unequal bit position indicates a failing signal.

#### Note:

Digit 1 = expected signals
Digit 3 = received signals
Bit on = active signal
Bit off = inactive signal

#### Bit 0

----> Data Set Ready

#### Bit 1

----> Clear To Send

#### Bit 2

----> Rcv. Line Signal Detect

#### Bit 3

----> Ring Indicator

Start ILT 21, mode LI (scope loop). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi Latch: none Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

#### **IMPORTANT**

When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'Signal Checking'.

#### Note

If more than one signal is failing, select one as (Step 006 continues)

13SEP82

PN 8488125

EC 366582

PEC 366334

1030

1030

MAP 8894-4

MAP 8894-4

PAGE 5 OF 9

(Step 006 continued) the 'failing signal' and go through the MAP, checking only this signal.

#### (Entry Point SS)

Probe the failing signal at test point A-IN.

#### Signal ok?

Y N

#### 007

Probe the failing signal at test point B-OUT.

## Signal ok?

Y N

#### 008

Probe the signal 'Test Control' at B-IN.

## Signal ok?

YN

#### 009

Probe 'Test Control' at A-OUT.

#### Signal ok?

ΥN

#### 010

Failing FRU:

CCA card (of failing line) 01A-C2..

Go to Page 7, Step 037,

Entry Point CC.

## 011

Failing FRU:

Board 01A-C2

Go to Page 7, Step 037,

Entry Point CC.

D

1030

MAP 8894-5

#### 012

Integrated modem with 'Auto Answer'?

ΥN

#### 013

Is the failing signal being wrapped on the IF card (of the failing line) 01A-C2..?

N

#### 014

(Entry Point WW)

Failing FRU:

IF card (of failing line); 01A-C2..

Go to Page 7, Step 037, Entry Point CC.

#### 015

Probe the failing signal at test point B-IN

#### Signal ok?

Ϋ́Υ

## 016

Probe the failing signal at test point A-OUT

#### Signal ok?

ΥN

#### 017

Failing FRU:

CCA card (of failing line); 01A-C2..

Go to Page 7, Step 037,

Entry Point CC.

#### 018

Failing FRU:

Board 01A-C2

Go to Page 7, Step 037, Entry Point CC.

13SEP82

PN 8488125

EC 366582

PEC 366334

b t

1030

MAP 8894-5



F 5 REF.C.8871XX81 GH 1030 MAP 8894-6 IFC WRAP ERROR PAGE 6 OF 9 019 028 Config byte 2 = X'30' (X.21 XLCA adapter)? Probably 'Set A' and/or 'Set B' (clock) YN missing. Reinstall the old IF card. Go To Map 8880, Entry Point A. 020 Go to Page 5, Step 014, Entry Point WW. 029 Go to Page 5, Step 014, Entry Point WW. 021 Probe 'Transmit Clock' and 'Receive Clock' at 030 test point B Out Probe all signals to 'Auto Answer Logic' at test points B-IN. Is any of the two signals pulsing (Both lights on, Up and Down)? All signals ok? Y N N 022 031 Replace IF card. Note: If more than one signal is failing, select one Run ILT 21 mode S. as the 'failing signal' and go through the MAP checking only this signal. Any error? Y N Probe the failing signal at test point A-OUT. Signal ok? Switch DCE to 'test 1' and run ILT 22 Y N mode S. 032 Any error? Failing FRU: Y N CCA card (of failing line); 01A-C2... 024 Go to Page 7, Step 037, Entry Point CC. Switch DCE to normal function or reconnect DCE, if disconnected, Go To Map 0001, Entry Point A. Failing FRU: Board 01A-C2 025 Follow new reference code. Go to Page 7, Step 037, Entry Point CC. 026 034 Same reference code as before? Failing FRU: Y N IF card (of failing line); 01A-C2... 027 Go to Page 7, Step 037, Entry Point CC. Follow new reference code.

> 13SEP82 PN 8488125 EC 366582 PEC 366334 1030 MAP 8894-6



B C 5 REF.C.8871XX81 1030 MAP 8894-7 **IFC WRAP ERROR** PAGE 7 OF 9 035 037 Failing FRU: Board 01A-C2 (Entry Point CC) Go to Step 037, Entry Point CC. Was the 'failing FRU' replaced earlier during 036 this trouble shooting? Failing FRU: ΥN CCA card (of failing line); 01A-C2.. 038 Go to Step 037, Entry Point CC. Replace or repair the failing FRU. (Entry Point XX) Run ILT 22, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test). Any error? ΥN Return to calling MAP or normal operation. 040 Same reference code as before? YN 041 Follow new reference code. 042 (Entry Point TT) Is more than one signal failing? Y N 043 DDS adapter? 13SEP82 PN 8488125 EC 366582 PEC 366334

1030

MAP 8894-7

K L M 7 7 7

## REF.C.8871XX81 IFC WRAP ERROR

PAGE 8 OF 9

044

Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

045

Replace next FRU.

Go to Page 7, Step 038, Entry Point XX.

046

Go To Map 0001, Entry Point P.

047

Failing FRU:

1.Board 01A-C2, cables or tailgate 01E

Failing signals: Receive Data Transmit Data Receive Data RTN Transmit Data RTN

Line Plate
 (if WT Public Switched Network is installed) or external cable.

Go To Map 8880, Entry Point A.

,

048

Are all the failing signals checked?

ΥN

049

Select the next failing signal as the 'failing signal'.

Go to Page 5, Step 006, Entry Point SS.

Note: Before removing Line Plate and external cable perform Line Plate adjustment.

See Vol.14 STM FEAT, section: CA (Integrated Modern Adapter Interface WT SNAA, Jumper Setting of PSN Feature).

1030

MAP 8894-8

13SEP82

PN 8488125

EC 366582

PEC 366334

1030

MAP 8894-8

9



N 8

REF.C.8871XX81

**IFC WRAP ERROR** 

PAGE 9 OF 9

050

DDS adapter?

Y N

051

Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

052

Replace next FRU!

Go to Page 7, Step 038, Entry Point XX.

053

Go To Map 0001, Entry Point P.

054

Failing FRU:

1.Board 01A-C2, cables or tailgate 01E

Failing signals:

Receive Data

Transmit Data

Receive Data RTN

Transmit Data RTN

2.Line Plate

(if WT Pulic Switch

Network is installed)

or external cable.

Go To Map 8880, Entry Point A.

Note: Before removing Line Plate and external cable perform Line Plate adjustment.
See Vol.14, STM FEAT, section: CA (Integrated

1030

MAP 8894-9

Modem Adapter Interface WT SNAA, Jumper

Setting of PSN Feature).

055

Go to Page 7, Step 042, Entry Point TT.

13SEP82

PN 8488125

EC 366582

PEC 366334

1030

MAP 8894-9

## INTERFACE CARD WRAP ERROR

PAGE 1 OF 6

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	А	1	001

#### **EXIT POINTS**

EXIT THIS MAP		
STEP NUMBER	MAP NUMBER	ENTRY POINT
004	0001	Α .
022	0001	Α
026	0001	Α
032	0001	Α
037	0001	Р
029	8880	Α
	STEP NUMBER 004 022 026 032 037	STEP NUMBER NUMBER  004 0001 022 0001 026 0001 032 0001 037 0001

## 001 (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

			========
•	SUPPL.CA		
•	2120	•	•
188721081	2120   	88729881  	2240
188721881		8872A881	
		1	
88722081	2310	8872B881	2220
188723081	2630	8872C881	2280
100-0-0		i	
188725081	8200	1 1	
188728081	2410	18872D881-	2240
		1	
188729081	2510	8872E881	2200

## Possible Failing FRUs:

- CCA card (of failing line); 01A-C2..
- IF card (of failing line); (Step 001 continues)

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13SEP82

PN-8488126

EC 366582

PEC 366334

AAA1040

1040

MAP 8896-1



## IFC WRAP ERROR

PAGE 2 OF 6

(Step 001 continued) 01A-C2..

- Board 01A-C2

If X.21 XLCA adapter is installed:

-Cables and connectors from board 01A-C2 to DCE (Data Communication Equipment) -DCE

Visually check all hardware components of the failing communication line:

- -IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)
- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

YN

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Note 1:

For physical locations see the referenced page given in Table A.

1040

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

Any error?

3 3

13SEP82

PN 8488126

EC 366582

PEC 366334

1040

MAP 8896-2



A B REF.C.8872XX81

IFC WRAP ERROR
PAGE 3 OF 6

004
Go To Map 0001, Entry Point A.

Go to Step 006, Entry Point BB.

1040

MAP 8896-3

006

(Entry Point BB)

Failing signal:

---> Receive data

Start ILT 21, mode LI (scope loop). For ILT run procedure see Vol.14,STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi Latch: none Gate REF: GND

Connect the power leads from the CE probe as

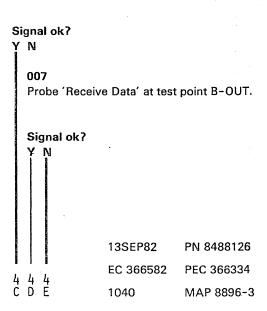
follows:

Red lead to: 01A-A2E2D03 (+5V) Black lead to: 01A-A2E2D08 (GND)

#### **IMPORTANT**

When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Probe 'Receive Data' at test point A-IN.



C D E 3 3 REF.C.8872XX81 G 1040 MAP 8896-4 IFC WRAP ERROR PAGE 4 OF 6 800 015 Probe 'Receive Clock' at test point A-IN. Probe 'Transmit Data' at test point B-IN. Signal ok? Signal ok? Y N Y N 009 016 Probe 'Transmit Data' at test point Probe 'Receive Clock' at test point B-OUT. A-OUT. Signal ok? Signal ok? Y N YN 017 010 Failing FRU: Failing FRU: IF card (of failing line); 01A-C2... CCA card (of failing line); 01A-C2.. Go to Page 6, Step 031, Entry Point CC. Go to Page 6, Step 031, Entry Point CC. 018 Failing FRU: 011 Board 01A-C2 Failing FRU: Board 01A-C2 Go to Page 6, Step 031, Entry Point CC. Go to Page 6, Step 031, 019 Entry Point CC. X.21 XLCA adapter? ΥN 012... Failing FRU: 020 IF card (of failing line); 01A-C2... Failing FRU: CCA card (of failing line) 01A-C2.. Go to Page 6, Step 031, Entry Point CC. Go to Page 6, Step 031, Entry Point CC. 013 Failing FRU: Board 01A-C2 Go to Page 6, Step 031, Entry Point CC. 014 CCA clocking? 13SEP82 PN 8488126 EC 366582 PEC 366334

1040

MAP 8896-4

REF.C.8872XX81 **IFC WRAP ERROR** PAGE 5 OF 6 021 Replace CCA (of failing line); 01A-C2.. Run ILT 21, mode S (single run) to verify correct operation for ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test). Any error? ΥN 022 Switch DCE to normal function or reconnect DCE, if disconnected. Go To Map 0001, Entry Point A. 023 Reference code 88723081 or 88743081? Y N 024 Follow new reference code. 025 Replace IF card (of failing line); 01A-C2.. Run ILT 21, mode S (single run) to verify correct operation. For ITL run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test). Any error? Y N 026 Switch DCE to normal function or reconnect DCE, if disconnected. Go To Map 0001, Entry Point A. 027 Reference code 8872XX81 or 8874XX81? N 028

Follow new reference code.

029 Failing FRU: Board 01A-C2, cables or tailgate 01E Failing signals: Set A Set B Go To Map 8880, Entry Point A. 030 Failing FRU: CCA card (of failing line); 01A-C2.. Go to Page 6, Step 031, Entry Point CC.

1040

MAP 8896-5

13SEP82 PN 8488126 EC 366582 PEC 366334 1040 MAP 8896-5

1040

MAP 8896-6

PAGE 6 OF 6

031 (Entry Point CC)

Replace or repair failing FRU

(Entry Point XX)

Run ILT 21, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

YN

032

Go To Map 0001, Entry Point A.

033

Reference code 8872XX81 or 8874XX81?

YN

034

Follow new reference code.

035

Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 01 of this MAP.)

ΥN

036

Replace next FRU.

Go to Step 031, Entry Point XX.

037

Go To Map 0001, Entry Point P.

13SEP82

PN 8488126

EC 366582

PEC 366334

1040

MAP 8896-6



## REF.CODE 8873XX81 FIX 0001 INTERFACE CARD WRAP ERROR

1050

MAP 8898-1

## **ENTRY POINTS**

PAGE 1 OF 7

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

## **EXIT POINTS**

EXIT THIS MAP		T0	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
7	050 055	0001	A P

001 (Entry Point A)

Go to Vol.14 STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

========		=======	
	SUPPL.CA	•	
88731081		88739881	
88731881	2110	8873A881	2260
88732081	2310	8873B881	2220
188733081	2630	8873C881	2280
  88735081	   8200		
  88738081	   2410	  8873D881	   2240
  88739081	   2510	  8873E881	2200

## Possible Failing FRUs:

- CCA card (of failing line); 01A-C2..
- IF card (of failing line); 01A-C2..
- Board 01A-C2
- Cables from board to modem (Step 001 continues)

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# REF.C.8873XX81 IFC WRAP ERROR

PAGE 2 OF 7

(Step 001 continued) - External modem

Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1) Check for proper seating.

- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

Y N

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error ?

YN

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

1050

MAP 8898-2

Note 1:

For physical locations see the referenced page given in Table A.

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 8488127

EC 366582

PEC 366334

1050

REF.C.8873XX81 1050 MAP 8898-3 **IFC WRAP ERROR** PAGE 3 OF 7 006 009 (Entry Point BB) (Entry Point DD) Start ILT 21, mode LI (scope loop). For ILT run procedure see Vol.14, STM FEAT, EIA adapter? section: CA (CA Inline test). Y N Prepare the CE probe as follows: 010 V 35 adapter? Technology: multi ΝY Latch: none Gate REF: GND 011 **HSDI** card? Connect the power leads from the CE probe as ΥN follows: 012 Red lead to: 01A-A2E2D03 (+5V) Failing FRU: Black lead to: 01A-A2E2D08 (GND) IF card (of failing line); 01A-C2.. **IMPORTANT** Also check whether the jumpers on the When going through the following probing IF card are in the right positions. procedure, use the page in supplement CA given in Table A to get pin locations and correct Go to Page 7, Step 049, CE probe indications. Entry Point CC. Note the paragraph 'signal checking'. 013 Go to Step 014, Entry Point V. CCA clocking? Y N 014 (Entry Point V) 007 Probe 'Transmit Clock' at test point A-IN. Probe 'New Sync' at test point B-IN. Signal ok? Signal ok? Y N NY 800 015 Probe 'Transmit Clock' at test point Probe 'New Sync' at test point A-OUT. B-OUT. Signal ok? Signal ok? 13SEP82 PN 8488127 EC 366582 PEC 366334

1050



```
F G H 3 3 3
               REF.C.8873XX81
               IFC WRAP ERROR
               PAGE 4 OF 7
     016
     Failing FRU:
     CCA card (of failing line); 01A-C2..
     Go to Page 7, Step 049, Entry Point CC.
  017
  Failing FRU:
  Board 01A-C2
  Go to Page 7, Step 049, Entry Point CC.
Probe 'Test Control' at test point B-IN.
Signal ok?
ΥN
  019
  Probe 'Test Control' at test point A-OUT.
  Signal ok?
  Y N
     020
     Failing FRU:
     CCA card (of failing line) 01A-C2..
     Go to Page 7, Step 049, Entry Point CC.
  021
  Failing FRU:
  Board 01A-C2
  Go to Page 7, Step 049, Entry Point CC.
022
Failing FRU:
```

Go to Page 7, Step 049, Entry Point CC.

IF card (of failing line); 01A-C2..

13SEP82 PN 8488127 EC 366582 PEC 366334 1050

1050

MAP 8898-4



REF.C.8873)(X81

**IFC WRAP ERROR** 

PAGE 5 OF 7

023

Probe 'Transmit Clock' at test point C-IN.

#### Signal ok?

ΥN

024

Probe 'Transmit Clock' at test point D-OUT.

## Signal ok?

Y N

025

Failing FRU:

1.Cable or external modem Connect the cable wrap plug.

2.0 Line Plate(if WT Public Switched Network is installed).o External Cable.

Run ILT 22, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

026

Failing FRU: External modem

Go to Page 7, Step 049, Entry Point CC.

027

Follow new reference code.

Note: Before removing Line Plate and external cable perform Line Plate adjustment. See Vol.14, STM FEAT, section: CA (Integrated Modem Adapter Interface WT SNAA, Jumper Setting of PSN Feature).

1050

MAP 8898-5

13SEP82

PN 8488127

EC 366582

PEC 366334

1050

MAP 8898-5

6 6

B C J K 3 3 5 5 REF.C.8873XX81 1050 MAP 8898-6 **IFC WRAP ERROR** PAGE 6 OF 7 028 036 Failing FRU: (Entry Point EE) Board 01A-C2 Probe 'Receive Data' at test point A-IN. Go to Page 7, Step 049, **Entry Point CC.** Signal ok? Y N 029 Failing FRU: 037 IF card (of failing line); 01A-C2.. Probe 'Receive Data' at test point B-OUT. Go to Page 7, Step 049, Entry Point CC. 030 Signal ok? Failing FRU: Y N Board 01A-C2 038 Go to Page 7, Step 049, Entry Point CC. Probe 'Transmit Data' at test point B-IN. Probe 'Receive Clock' at test point A-IN. Signal ok? Y N 039 Signal ok? Y N Probe 'Transmit Data' at test point A-OUT. 032 Probe 'Receive Clock' at test point B-OUT. Signal ok? YN Signal ok? Y N 040 Failing FRU: 033 CCA card (of failing line); 01A-C2.. Go to Page 3, Step 009, Entry Point DD. Go to Page 7, Step 049, **Entry Point CC.** 034 Failing FRU: 041 Board 01A-C2 Failing FRU: Board 01A-C2 Go to Page 7, Step 049, Entry Point CC. Go to Page 7, Step 049, **Entry Point CC.** 035 Go to Step 036, Entry Point EE. 13SEP82 PN 8488127 EC 366582 PEC 366334

1050

CCA card (of failing line); 01A-C2..

Go to Step 049, Entry Point CC.

13SEP82 PN 8488127 EC 366582 PEC 366334 1050 MAP 8898-7



### INTERFACE CARD WRAP ERROR

PAGE 1 OF 6

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	А	1	001

#### **EXIT POINTS**

EXIT THIS MAP		ТО		
STEP NUMBER	MAP NUMBER	ENTRY POINT		
004	0001	Α		
010	0001	Α		
014	0001	Α		
032	0001	Α		
037	0001	Р		
017	8880	Α		
	STEP NUMBER 004 010 014 032 037	STEP NUMBER NUMBER  004 0001 010 0001 014 0001 032 0001 037 0001		

1060

#### 001 (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

========	========	========	========
	SUPPL.CA    ======	1	
88741081	2120	88749881	•
88741881	, ,	8874A881	2260
88742081	2310	8874B881	2220
88743081	2630	8874C881	2280
88745081	8200		
88748081	2410	8874D881	2240
188749081	   2510	8874E881	2200

Possible Failing FRUs:

- IF card (of failing line); 01A-C2..

- CCA card (of failing line); (Step 001 continues)

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13SEP82 PN 8488128 EC 366582 PEC 366334 1060 MAP 889A-1

#### MAP 889A-2

#### **INTERFACE CARD WRAP**

PAGE 2 OF 6

(Step 001 continued)

01A-C2..

- Board 01A-C2.

If X21 XLCA adapter is installed: -cables from board 01A-C2 to DCE

-DCE.

Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)

-CCA-card 01A-C2.. (Note 1) Check for proper seating.

-Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.

-Check that the DCE is set up adequately.

Any problem detected?

Y N

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

004

Go To Map 0001, Entry Point A.

Note 1:

For physical locations see the referenced page given in Table A.

1060

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 8488128

EC 366582

PEC 366334

1060

MAP 889A-2

1060

MAP 889A-3

005

C REF.C.8874XX81	B D 1060 MAP 889A-4
INTERFACE CARD WRAP	3
PAGE 4 OF 6	
009	017
Replace CCA (of failing line);	Failing FRU:
01A-C2	Board 01A-C2, cables or tailgate 01E
Run ILT 21, mode S (single run) to verify	failing signals:
correct operation.	Set A
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).	Set B
section: CA (CA infine test).	Go To Map 8880, Entry Point A.
Any error?	018
Y N I	Start ILT 21, mode LI (scope loop).
010	For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).
Switch DCE to normal function or reconnect	, , , , , , , , , , , , , , , , , , , ,
DCE, if disconnected.	Prepare the CE probe as follows:
Go To Map 0001, Entry Point A.	Technology: multi
011	Latch: none
Reference code 88743081 or 887230817	Gate REF: GND
YN	Connect the power leads from the CE probe as
012	follows:
Follow new reference code.	D // / / 044 4050D00 //51/
I 013	Red lead to: 01A-A2E2D03 (+5V) Black lead to: 01A-A2E2D08 (GND)
Replace IF card (of failing line); 01A-C2	Sidok load to 7017( 71222200 (GHz)
D	IMPORTANT
Run ILT 21, mode S (single run) to verify correct operation.	When going through the following probing procedure, use the page in supplement CA
For ILT run procedure see Vol.14, STM FEAT,	given in Table A to get pin locations and correct
section: CA (CA Inline test).	CE probe indications. Note the paragraph
Any error?	'signal checking'.
YN	Probe 'Receive Data' at test point A-IN.
014	•
Switch DCE to normal function or reconnect	Signal ok?
DCE, if disconnected.	YN
Go To Map 0001, Entry Point A.	010
I 015	019 Probe 'Receive Data' at test point B-OUT.
Reference code 88743081 or 88723081?	
Y N	8:554.42
016	Signal ok? Y N
Follow new reference code.	
	13SEP82 PN 8488128
$-\mathbf{I}_{\mathrm{const}}$	EC 366582 PEC 366334
D	5 5 5 E F G 1060 MAP 889A-4

REF.C.8874XX81 1060 MAP 889A-5 **INTERFACE CARD WRAP** PAGE 5 OF 6 020 027 Probe 'Transmit Data' at test point B-IN. Failing FRU: Board 01A-C2 Signal ok? Go to Page 6, Step 031, ΥN **Entry Point CC.** 021 028 Probe 'Transmit Data' at test point A-OUT. Failing FRU: IF card (of failing line); 01A-C2.. Signal ok? Go to Page 6, Step 031, Entry Point CC. Y N 029 022 Failing FRU: Failing FRU: Board 01A-C2 CCA card (of failing line); 01A-C2.. Go to Page 6, Step 031, Entry Point CC. Go to Page 6, Step 031, Entry Point CC. 030 023 Failing FRU: Failing FRU: CCA card (of failing line); 01A-C2.. Board 01A-C2 Go to Page 6, Step 031, Entry Point CC. Go to Page 6, Step 031, Entry Point CC. 024 Probe 'Test Control' at test point B-IN. Signal ok? ΥN 025 Probe 'Test Control' at test point A-OUT. Signal ok? Y N 026 Failing FRU: CCA card (of failing line 01A-C2... Go to Page 6, Step 031, Entry Point CC.

> 13SEP82 PN 8488128 EC 366582 PEC 366334

1060 MAP 889A-5

Η.

#### INTERFACE CARD WRAP

PAGE 6 OF 6

031

(Entry Point CC)

Replace or repair the failing FRU.

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Any error?

ΥN

032

Go To Map 0001, Entry Point A.

033

Same reference code as before?

N

034

Follow new reference code.

035

Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

N Y

036

Replace next FRU.

Go to Step 031, Entry Point XX.

037

Go To Map 0001, Entry Point P.

13SEP82

PN 8488128

EC 366582

PEC 366334

1060

1060

MAP 889A-6

MAP 889A-6



#### MAP 889C-1

# REF.CODE 88A2XX81 FIX 0001 SELF TEST PLUG WRAP ERROR

PAGE 1 OF 7

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

#### **EXIT POINTS**

EXIT THIS MAP		T0	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	Α
4	017	0001	Α
6	044	0001	A
7	058	0001	· A
7	063	0001	Р
6	042	8880	Α
6	050	8880	Α

#### 001 (Entry Point A)

Go to Vol. 14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

#### Table A

========	
REF.CODE	
======	=======
88A21081	
88A21481	2180
88A21881	2170
88A21C81	2170

#### Possible Failing FRUs:

- CCA card (of failing line); 01A-C2..
- IF card (of failing line); 01A-C2..
- Board 01A-C2
- Cables
- Self test wrap plug

#### (Step 001 continues)

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REF.CODE 88A2XX81	EC 366582	PEC 366334
AAA1070	1070	MAP 889C-



# REF.C.88A2XX81 SELF TEST PLUG WRAP

PAGE 2 OF 7

(Step 001 continued)

Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

Ϋ́N

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 1:

For physical locations see the referenced page given in Table A.

Note 2:

See Vol. 14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 8488113

EC 366582

PEC 366334

1070

MAP 889C-2



# REF.C.88A2XX81

#### **SELF TEST PLUG WRAP**

PAGE 3 OF 7

006

(Entry Point BB)

Start ILT 24, mode LI (scope loop).

For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi Latch: none Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V) Black lead to: 01A-A2E2D08 (GND)

#### **IMPORTANT**

When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Failing signal:

----> Receive Data

Probe 'Receive Data' at test point A-IN.

#### Signal ok?

ΥN

007

Probe 'Receive Data' at test point B-OUT.

Signal ok?

ΥN

1070

MAP 889C-3

800

**EIA adapter?** 

Y N

009

Probe 'Transmit Data' at test point B-IN.

Signal ok?

Y N

Probe 'Transmit Data' at test point

A-OUT.

Signal ok?

N Y

011

Failing FRU:

CCA card (of failing line); 01A-C2..

Go to Page 7, Step 057, Entry Point CC.

012

Failing FRU:

Board 01A-C2

Go to Page 7, Step 057, Entry Point CC.

013

Replace IF card (of failing line); 01A-C2..

Run ILT 24, mode S (single run) to verify correct operation.

For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test)...

Test result satisfactory?

13SEP82

PN 8488113

EC 366582 PEC 366334

4 4 4 D E F

1070

MAP 889C-3

**REF.C.88A2XX81** J K L 1070 MAP 889C-4 **SELF TEST PLUG WRAP** PAGE 4 OF 7 022 Same reference code as before? Probe 'Transmit Data' at test point B-IN. Y N 015 Signal ok? Follow new reference code. Y N 023 Go to Page 6, Step 047, Entry Point E. Probe 'Transmit Data' at test point A-OUT. 017 Go To Map 0001, Entry Point A. Signal ok? 018 YN Probe 'Receive Data' at test point C-IN. 024 Failing FRU: Signal ok? CCA card (of failing line); 01A-C2.. Y N Go to Page 7, Step 057, 019 Entry Point CC. Probe 'Receive Data' at test point D-OUT. 025 Failing FRU: Signal ok? Board 01A-C2 ΥN Go to Page 7, Step 057, 020 Entry Point CC. Probe 'Transmit Data' at test point D-IN. 026 Failing FRU: Signal ok? IF card (of failing line); 01A-C2.. Y N Go to Page 7, Step 057, Entry Point CC. 021 Probe 'Transmit Data' at test point 027 C-OUT. Failing FRU: Board 01A-C2 Signal ok? Go to Page 7, Step 057, Entry Point CC. 028 Go to Page 6, Step 047, Entry Point E. 13SEP82 PN 8488113 EC 366582 PEC 366334 5 5 G H J K L 1070 MAP 889C-4

**REF.C.88A2XX81** R 1070 MAP 889C-5 **SELF TEST PLUG WRAP** PAGE 5 OF 7 029 036 Failing FRU: Replace IF card (of failing line); 01A-C2.. Board 01A-C2 Run ILT 24, mode S (single run) to verify Go to Page 7, Step 057, correct operation. For ILT run procedure see Vol. 14, STM FEAT, Entry Point CC. section: CA (CA Inline Test). 030 Failing FRU: IF card (of failing line); 01A-C2.. Test result satisfactory? Y N Go to Page 7, Step 057, Entry Point CC. 037 Reference code 88A2XX81 or 88A4XX81? 031 ΥN Failing FRU: Board 01A-C2 038 Go to Page 7, Step 057, Entry Point CC. Follow new reference code. 032 039 Disconnect the modem and the self test CCA clock? ΥN wrap plug. Connect the cable wrap plug. 033 Probe 'Receive Clock' at test point A-IN. Run ILT 22, mode S (single run) to verify correct operation. For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test). Signal ok? ΥN 034 Test result satisfactory? Probe 'Receive Clock' at test point ΝY B-OUT. Reference code = 88822081? Signal ok? Y N 041 035 Follow new reference code. EIA adapter? 13SEP82 PN 8488113 EC 366582 PEC 366334 1070 MAP 889C-5

0 S T U 5 5 5 5 REF.C.88A2XX81 W X 1070 MAP 889C-6 **SELF TEST PLUG WRAP** PAGE 6 OF 7 042 047 Failing FRU: (Entry Point E) Board 01A-C2 Cables or tailgate 01E. Disconnect the modem and the self test wrap plug. Failing signals: Connect the cable wrap plug. Receive Clock Receive Clock RTN Run ILT 22, mode S (single run) to verify correct operation. Go To Map 8880, Entry Point A. For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test). 043 Failing FRU: Modem or self test wrap plug Test result satisfactory? Y N Go to Page 7, Step 057, Entry Point CC. 048 044 Reference code = 8882XX81? Go To Map 0001, Entry Point A. Y N 045 049 Probe 'Receive Clock' at test point C-IN. Follow new reference code. 050 Signal ok? Failing FRU: Y N Board 01A-C2, cables or tailgate 01E Failing signals: 046 Probe 'Receive Clock' at test point D-OUT. Receive Clock Transmit Data Receive Data Signal ok? Ν Go To Map 8880, Entry Point A. 051 Failing FRU: Modem or self test wrap plug Go to Page 7, Step 057, Entry Point CC. 052 Failing FRU: Board 01A-C2 Go to Page 7, Step 057, Entry Point CC. 13SEP82 PN 8488113 EC 366582 PEC 366334 1070 MAP 889C-6



M N P V 5 5 5 6

REF.C.88A2XX81

**SELF TEST PLUG WRAP** 

PAGE 7 OF 7

053

Failing FRU:

IF card (of failing line); 01A-C2..

Go to Step 057, Entry Point CC.

054

Failing FRU:

Board 01A-C2

Go to Step 057, Entry Point CC.

055

Failing FRU:

CCA card (of failing line); 01A-C2..

Go to Step 057, Entry Point CC.

056

Failing FRU:

CCA card (of failing line); 01A-C2..

Go to Step 057, Entry Point CC.

1070

MAP 889C-7

057

(Entry Point CC)

Replace or repair the failing FRU. Reconnect the self test wrap plug and the modem, if disconnected.

(Entry Point XX)

Run !LT 24, mode S (single run) to verify correct operation.

For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

058

Go To Map 0001, Entry Point A.

059

Reference code 88A2XX81 or 88A4XX81?

YN

060

Follow new reference code!

061

Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP).

Y N

062

Replace next FRU!

Go to Step 057, Entry Point XX.

063

Go To Map 0001, Entry Point P.

13SEP82

PN 8488113

EC 366582

PEC 366334

1070

MAP 889C-7

# PLUG WRAP ERROR

PAGE 1 OF 8

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	Α .	1	001

#### **EXIT POINTS**

EXIT THIS MAP		ТО		
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT	
 7	036	0001	А	
7	043	0001	Р	
8	050	0001	Р	
5	015	8880	A	
7	044	8880	Α	
8	051	8880	Α	

#### 001 (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

#### Table A

========	========	========	========
	SUPPL.CA		The second secon
=======	=======	=======	=======
88811081	2160	88812081	•
188811481	2160	188813081	2640
88811881	2150	88818081	2320
88811C81	2150	88819081	2520
=======	-======		
		188812481	2320

#### Possible Failing FRUs:

- CCA card (of failing line); 01A-C2..
- IF card (of failing line); 01A-C2..
- Internal or external cables or tailgate
- Board 01A-C2 (Step 001 continues)

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# PLUG WRAP ERROR

PAGE 2 OF 8

(Step 001 continued)

Visually check all hardware components of the failing communication line:

- -IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)
- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

ΥN

002

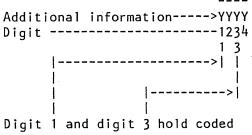
Go to Step 003, Entry Point BB.

003

(Entry Point BB)

The 'additional information' (reference MAP 8886) must now be used to determine the failing signal.

On the screen ---->8881XX81YYYY



Digit 1 and digit 3 hold code information about the signals being wrapped.

(Step 003 continues)

Note 1:

For physical locations see the referenced page given in Table A.

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82 PN 8488130 EC 366582 PEC 366334 1080 MAP 889E-2

#### REF.C.8881XX81

**PLUG WRAP ERROR** 

PAGE 3 OF 8

(Step 003 continued)

Digit 1 =expected signals

Digit 3 = received signals

To find the signal names and the failing signal, do the following:

Write down the value of digit 1 in binary notation.

Write down the value of digit 3 in binary notation.

Compare the two binary values bit by bit.

DIGIT	HEX	VALUE	BINAR	
		_	-	 
			1	 
UNEQUA			>	 :

An unequal bit position indicates a failing signal.

Digit 1 = expected signals

Digit 3 = received signals

Bit on = active signal

Bit off = inactive signal

----> Data Set Ready

----> Clear To Send

Bit 2

----> RCV Line Signal Detect

(Step 003 continues)

13SEP82 PN 8488130 EC 366582 PEC 366334

1080

MAP 889E-3

# REF.C.8881XX81 PLUG WRAP ERROR

PAGE 4 OF 8

(Step 003 continued)
----> Ring Indicator

Start ILT 22, mode LI (scope loop). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follow:

Technology: multi Latch: none Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

#### **IMPORTANT**

When going through the following probing procedure, use the page in Supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

#### Note:

If more than one signal is failing, select one as the 'failing signal' and go through the MAP checking only this signal.

#### (Entry Point SS)

Probe the failing signal at test point A-IN.

# Y N O04 Probe the failing signal at test point B-OUT. Signal ok? Y N

1080 MAP 889E-4 005 Is the failing signal being wrapped on the IF card (of failing line); 01A-C2..? Y N 006 Is the failing signal being wrapped in the cable wrap plug or in switch of X.21 DCE. Y N 007 Failing FRU: IF card (of failing line); 01A-C2.. Go to Page 7, Step 034, Entry Point CC. 800 X.21 XLCA adapter? YN 009 Probe the failing signal at test point C-IN. Signal ok? Y N 010 Probe the failing signal at test point D-OUT. Signal ok? Y N Probe the failing signal at test point D-IN. Signal ok? Y N 13SEP82 PN 8488130

EC 366582

1080

PEC 366334

MAP 889E-4

K L REF.C.8881XX81 1080 MAP 889E-5 **PLUG WRAP ERROR** PAGE 5 OF 8 019 012 Probe the failing signal at test point Probe the failing signal at test point A-OUT. C-OUT. Signal ok? Signal ok? Y N ΥN 020 013 Failing FRU: Go to Step 018, CCA card (of failing line); 01A-C2.. Entry Point DD. Go to Page 7, Step 034, Entry Point CC. 014 Failing FRU: 021 Board 01A-C2 Failing FRU: Board 01A-C2 Go to Page 7, Step 034, Entry Point CC. Go to Page 7, Step 034, Entry Point CC. 015 022 Failing FRU: EIA adapter or X.21 XLCA adapter? Board 01A-C2, cable or tailgate 01E. Go To Map 8880, Entry Point A. N Y 016 Failing FRU: 023 Board 01A-C2 Failing FRU: IF card (of failing line); 01A-C2.. Go to Page 7, Step 034, Entry Point CC. Go to Page 7, Step 034, Entry Point CC. 017 Failing FRU: 024 IF card (of failing line), 01A-C2.. Is the failing signal 'Rcv. Line Signal Detected'? Go to Page 7, Step 034, Entry Point CC. N 018 025 (Entry Point DD) Failing FRU: Probe the failing signal at test point B-IN. IF card (of failing line); 01A-C2... Signal ok? Go to Page 7, Step 034, Entry Point CC. Y N 13SEP82 PN 8488130 EC 366582 PEC 366334 K L 1080 MAP 889E-5

B D M 4 4 5 PLUG WRAP ERROR PAGE 6 OF 8 026 033 Probe 'Test Control' at test point B-IN. Failing FRU: CCA card (of failing line); 01A-C2.. Signal ok? Y N Go to Page 7, Step 034, Entry Point CC. 027 Probe 'Test Control' at test point A-OUT. Signal ok? YN 028 Failing FRU: CCA card (of failing line) Go to Page 7, Step 034, **Entry Point CC.** 029 Failing FRU: Board 01A-C2 Go to Page 7, Step 034, Entry Point CC. 030 Failing FRU: IF card (of failing line); 01A-C2.. Go to Page 7, Step 034, Entry Point CC. 031 Go to Page 5, Step 018, Entry Point DD. 032 Failing FRU: Board 01A-C2

1080

MAP 889E-6

REF.C.8881XX81

Go to Page 7, Step 034, Entry Point CC.

13SEP82 PN 8488130 EC 366582 PEC 366334 1080 MAP 889E-6



# REF.C.8881XX81 PLUG WRAP ERROR

PAGE 7 OF 8

034

#### (Entry Point CC)

Was the 'failing FRU' replaced earlier during this trouble shooting?

ΥN

035

Replace or repair the failing FRU.

#### (Entry Point XX)

Run ILT 22, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

036

Reconnect external modem/DCE, if disconnected or switch DCE to normal function.

Go To Map 0001, Entry Point A.

กรร

Same reference code as before?

NY

038

Follow new reference code.

039

(Entry Point TT)

Is more than one signal failing?

Y N | 040 | DDS adapter? | Y N | | |

8 NPQR PQR

1080

MAP 889E-7

04

Have all possible failing FRUs been replaced?

(For a complete list see possible failing FRUs in step 001 of this MAP)

ΥN

042

Replace next FRU.

Go to Step 035, Entry Point XX.

043

Go To Map 0001, Entry Point P.

044

Failing FRU:

Board 01A-C2, cables or tailgate 01A

Failing signals:

Receive Data

Transmit Data

Receive Data RTN

Transmit Data RTN

Go To Map 8880, Entry Point A.

045

Are all the failing signals checked?

NY

**)46** 

Select the next failing signal as the 'failing signal'.

Go to Page 4, Step 003, Entry Point SS.

047

DDS adapter?

YN

13SEP82

PN 8488130

EC 366582

PEC 366334

šŤ

1080

MAP 889E-7

PLUG WRAP ERROR

PAGE 8 OF 8

048

Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

/ N

049

Replace next FRU.

Go to Page 7, Step 035, Entry Point XX.

050

Go To Map 0001, Entry Point P.

051

Failing FRU:

Board 01A-C2, cables or tailgate 01E

Failing signals:

Receive Data

Transmit Data

Receive Data RTN

Transmit Data RTN

Go To Map 8880, Entry Point A.

052

Go to Page 7, Step 039, Entry Point TT.

13SEP82

PN 8488130

EC 366582

PEC 366334

1080

MAP 889E-8

#### REF.CODE 8882XX81 FIX 0000 PLUG WRAP ERROR

PAGE 1 OF 7

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

#### **EXIT POINTS**

EXIT THIS MAP		ТО	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
2	004	0001	A A A A A A A A A A
4	017	0001	
6	036	0001	
6	040	0001	
7	044	0001	
7	050	0001	
4	055	8880	
5	016	8880	
7	035 047	8880	A

#### 001 (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

	SUPPL.CA		
======	=======	======	=======
88821081	2160	88822081	2320
88821481	2160	88822481	2320
88821881	2150	188823081	2630
88821C81	2150	88828081	2420
========	========		
		88829081	2520

Possible Failing FRUs:

- CCA card (of failing line); 01A-C2.. (Step 001 continues)

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13SEP82 PN 8488131 EC 366582 PEC 366334 1090 MAP 88A0-1



#### REF.C.8882XX81

#### **PLUG WRAP ERROR**

PAGE 2 OF 7

(Step 001 continued)

- IF card (of failing line); 01A-C2..
- Board 01A-C2
- Cables

Visually check all hardware components of the failing communication line:

- -IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)
- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

Y N

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 22, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

004

Go To Map 0001, Entry Point A.

Note 1:

For physical locations see the referenced page given in Table A.

1090

MAP 88A0-2

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 8488131

EC 366582

PEC 366334

1090

MAP 88A0-2

3



A REF.C.8882XX81
2 PLUG WRAP ERROR
PAGE 3 OF 7
005

Go to Step 006, Entry Point BB.

1090

MAP 88A0-3

#### 006 (Entry Point BB)

Start ILT 22, mode LI (scope loop). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi Latch: none Gate REF: GND

Connect the power leads from the CE probe as follows:

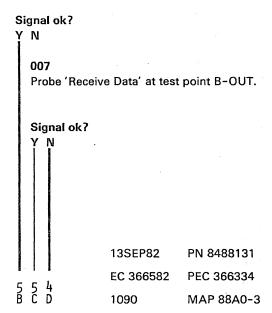
Red lead to: 01A-A2E2D03 (+5V) Black lead to: 01A-A2E2D08 (GND)

#### **IMPORTANT**

When going through the following probing procedure, use the page in Supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

# Failing signal: ----> Receive Data

Probe 'Receive Data' at test point A-IN.



D 3 REF.C.8882XX81 EFGH 1090 MAP 88A0-4 PLUG WRAP ERROR PAGE 4 OF 7 800 015 Probe 'Transmit Data' at test point B-IN. Follow new reference code. 016 Signal ok? Failing FRU: Y N Board 01A-C2, cables or tailgate 01E 009 Failing signals: Probe 'Transmit Data' at test point A-OUT. Receive Data Transmit Data Signal ok? Go To Map 8880, Entry Point A. Y N 017 010 Go To Map 0001, Entry Point A. Failing FRU: CCA card (of failing line); 01A-C2.. Probe 'Receive Data' at test point C-IN. Go to Page 7, Step 049, Entry Point CC. 011 Signal ok? Failing FRU: ΥN Board 01A-C2 019 Go to Page 7, Step 049, Entry Point CC. Probe 'Receive Data' at test point D-OUT. 012 EIA adapter? Signal ok? Y N YN 013 020 Replace IF card (of failing line); 01A-C2.. Probe 'Transmit Data' at test point D-IN. Run ILT 22, mode S (single run) to verify correct operation. Signal ok? For ILT run procedure see Vol.14, STM Y N FEAT, section: CA (CA Inline Test). 021 Probe 'Transmit Data' at test point Test result satisfactory? C-OUT. Y N Signal ok? Same reference code as before? 13SEP82 PN 8488131 EC 366582 PEC 366334 EFGH 1090 MAP 88A0-4

J K L M N REF.C.8882XX81 1090 MAP 88A0-5 **PLUG WRAP ERROR** PAGE 5 OF 7 022 028 Failing FRU: CCA clock? IF card (of failing line); 01A-C2.. Y N Go to Page 7, Step 049, 029 **Entry Point CC.** Probe 'Receive Clock' at test point A-IN. 023 Failing FRU: Signal ok? Board 01A-C2 ΥN Go to Page 7, Step 049, 030 **Entry Point CC.** Probe 'Receive Clock' at test point B-OUT. 024 Failing FRU: Board 01A-C2, cables or tailgate 01E Signal ok? N Y Failing signals: Receive Data 031 Transmit Data DDS adapter? ΝY Go To Map 8880, Entry Point A. 025 Replace IF card (of failing line); Failing FRU: 01A-C2.. Board 01A-C2 Run ILT 22, mode S (single run) to Go to Page 7, Step 049, Entry Point CC. verify correct operation. For ILT run procedure see Vol.14, 026 STM FEAT, section: CA (CA Inline Failing FRU: Test). IF card (of failing line); 01A-C2.. Go to Page 7, Step 049, Entry Point CC. Test result satisfactory? 027 Failing FRU: Board 01A-C2 Go to Page 7, Step 049, Entry Point CC. 13SEP82 PN 8488131 EC 366582 PEC 366334

1090

MAP 88A0-5

REF.C.8882XX81 V W 1090 MAP 88A0-6 **PLUG WRAP ERROR** PAGE 6 OF 7 040 . Same reference code as before? Reconnect external modem, if disconnected. YN Go To Map 0001, Entry Point A. 034 041 Follow new reference code. Reference code 8882XX81 or 8884XX81? Y N 035 Failing FRUs: 042 Board 01A-C2, cables or tailgate Follow new reference code. 01E Failing signals: Replace IF card (of failing line); 01A-C2.. . Receive Clock Test Clock Run ILT 22, mode S (single run) to verify correct operation. Go To Map 8880, Entry Point A. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test). 036 Go To Map 0001, Entry Point A. Any error? 037 Y N Failing FRU: IF card (of failing line); 01A-C2.. Reconnect external modem, if disconnected. Go to Page 7, Step 049, Entry Point CC. Go To Map 0001, Entry Point A. 038 045 Failing FRU: Reference code 8882XX81 or 8884XX81? Board 01A-C2 YN Go to Page 7, Step 049, Entry Point CC. 046 Follow new reference code. 039 Replace CCA (of failing line); 01A-C2.. Run ILT 22, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test). Any error? N 13SEP82 PN 8488131 EC 366582 PEC 366334 1090 MAP 88A0-6

```
P X REF.C.8882XX81

PLUG WRAP ERROR
PAGE 7 OF 7
```

047

Failing FRU:

Board 01A-C2, cables or tailgate 01E

Failing signals:

Receive Data

Receive Data RTN

Transmit Data

Transmit Data RTN

Receive Clock

Receive Clock RTN

**Transmit Clock** 

Transmit Clock RTN

Transmit A

Transmit B

Receive A

Receive B

Set A

Set B

Go To Map 8880, Entry Point A.

#### 048

Failing FRU:

CCA card (of failing line); 01A-C2..

Go to Step 049, Entry Point CC.

049

(Entry Point CC)

Replace or repair the failing FRU.

(Entry Point XX)

RUN ILT 22, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

ΥN

050

Reconnect external modem, if disconnected Go To Map 0001, Entry Point A.

051

Reference code 8882XX81 or 8884XX81?

ΥN

052

Follow new reference code.

053

Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

ΥN

054

Replace next FRU!

Go to Step 049, Entry Point XX.

055

Go To Map 0001, Entry Point P.

13SEP82

PN 8488131

EC 366582

PEC 366334

1090

MAP 88A0-7





#### REF.CODE 8883XX81 FIX 0005

#### **PLUG WRAP ERROR**

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#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

## EXIT POINTS

IS MAP	ТО	
STEP	MAP	ENTRY
NUMBER	NUMBER	POINT
004	0001	Α
020	0001	Α
068	0001	Α
081	0001	Α
085	0001	Α
091	0001	Α
031	0001	Α
096	0001	Р
019	8880	Α
027	8880	Α
067	8880	Α
075		Α
088	8880	Α
034	8880	Α
	004 020 068 081 085 091 031 096 019 027 067 075 088	STEP NUMBER NUMBER  004 0001 020 0001 068 0001 081 0001 085 0001 091 0001 091 0001 096 0001 019 8880 027 8880 027 8880 075 8880 088 8880

1100

MAP 88A2-1

#### 001 (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

========			
REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
=======	=======	=======	======
88831081	2160	88832081	2320
88831481	2160	188832481	2320
88831881	2150	188833081	2630
188831C81	2150	188838081	2420
		88839081	2520
		========	

Possible failing FRUs: (Step 001 continues)

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#### REF.C.8883XX81

#### **PLUG WRAP ERROR**

PAGE 2 OF 11

(Step 001 continued)

- CCA card (of failing line); 01A-C2..
- IF card (of failing line); 01A-C2..
- Board 01A-C2
- Cables from board 01A-C2 to wrap plug

Visually check all hardware components of the failing communication line:

- -IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)
- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

Ϋ́Ν

002 Go to Page 3, Step 006, Entry Point BB.

003

. Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error ?

N

004

Go To Map 0001, Entry Point A.

Note 1:

For physical locations see the referenced page given in Table A.

1100

MAP 88A2-2

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 8488132

EC 366582

PEC 366493

1100

MAP 88A2-2

3

A REF.C.8883XX81
2 PLUG WRAP ERROR
PAGE 3 OF 11
0005

Go to Step 006, Entry Point BB.

1100

MAP 88A2-3

#### 006 (Entry Point BB)

Start ILT 22, mode LI (scope loop). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi Latch: none Gate REF: GND

Connect the power leads form the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V)
Black lead to: 01A-A2E2D08 (GND)

#### **IMPORTANT**

When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

# CCA clocking? Y N 007 Probe 'Transmit Clock' at test point A-IN. Signal ok? Y N 008 Probe 'Transmit Clock' at test point B-OUT. Signal ok? Y N 13SEP82 PN 8488132 EC 366582 PEC 366493

1100

MAP 88A2-3



```
E
3
               REF.C.8883XX81
                                                               1100
                                                                            MAP 88A2-4
               PLUG WRAP ERROR
               PAGE 4 OF 11
009
DDS adapter?
ΥN
  010
  X.21 XLCA adapter?
  YN
     011
     Probe 'New Sync' at test point B-IN.
     Before probing wait 2 minutes.
                                               See Signal Checking in Vol.14, STM FEAT,
                                               section: CA, (Signal Flow and Wrap Test).
     Signal ok?
     ΥN
       012
       Probe 'New Sync' at test point A-OUT.
       Signal ok?
       Y N
          013
          Failing FRU:
          CCA card (of failing line); 01A-C2..
          Go to Page 11, Step 090,
          Entry Point CC.
       014
       Failing FRU:
       Board 01A-C2, cables or tailgate 01E
       Go to Page 11, Step 090,
       Entry Point CC.
     015
     EIA adapter?
                                                               13SEP82
                                                                            PN 8488132
                                                               EC 366582
                                                                            PEC 366493
```

1100

MAP 88A2-4



REF.C.8883XX81 L 1100 MAP 88A2-5 PLUG WRAP ERROR PAGE 5 OF 11 016 022 (Entry Point EE) Probe 'Transmit Clock' at test point D-OUT. Replace IF card (of failing line); 01A-C2.. Run ILT 22, mode S (single run) to verify Signal ok? correct operation. Y N For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test). 023 (Entry Point FF) Test result satisfactory? Probe 'New Sync' at test point D-IN. Y N Signal ok? 017 Y N Same reference code as before? YN 024 Probe 'New Sync' at test point C-OUT. 018 Follow new reference code. Signal ok? Y N 019 Failing FRU: 025 Board 01A-C2, cables or tailgate 01E Failing FRU: IF card (of failing line); 01A-C2.. Failing signals: **Test Clock** Go to Page 11, Step 090, **Test Clock RTN** Entry Point CC. Transmit Clock Transmit Clock RTN 026 Failing FRU: Go To Map 8880, Entry Point A. Board 01A-C2 Go to Page 11, Step 090, Entry Point CC. Go To Map 0001, Entry Point A. 027 Failing FRU: Probe 'Transmit Clock' at test point C-IN. Board 01A-C2, cables or tailgate 01E Failing signals: Signal ok? New Sync Y N Transmit Clock Receive Clock Go To Map 8880, Entry Point A. 13SEP82 PN 8488132 EC 366582 PEC 366493

MAP 88A2-5

1100

C D 3 REF.C.8883XX81 1100 MAP 88A2-6 **PLUG WRAP ERROR** PAGE 6 OF 11 028 036 Failing FRU: Failing FRU: Board 01A-C2 Board 01A-C2 Go to Page 11, Step 090, Go to Page 11, Step 090, Entry Point CC. **Entry Point CC.** 037 029 Probe 'Receive Clock' at test point A-IN. Failing FRU: IF card (of failing line); 01A-C2.. Signal ok? Go to Page 11, Step 090, Entry Point CC. Y N 030 038 (Entry Point YY) Probe 'Receive Clock' at test point B-OUT. Replace IF card (of failing line) 01A-C2... Signal ok? Y N Run ILT 22, mode S (single run). 039 Any error? DDS adapter? YN Y N 031 040 Switch DCE to normal function or X.21 XLCA adapter? reconnect DCE, if disconnected. ΥN Go To Map 0001, Entry Point A. Probe 'New Sync' at test point Same reference code as before? B-IN. Y N 033 Signal ok? Follow new reference code. 034 Probably 'Set A' and/or 'Set B' missing. Reinstall the old IF card. Go To Map 8880, Entry Point A. 035 Failing FRU: IF card (of failing line); 01A-C2.. Go to Page 11, Step 090, Entry Point CC. 13SEP82 PN 8488132 EC 366582 PEC 366493 7 7 7 7 7 7 N P Q R S T

1100

MAP 88A2-6

```
S T 6 6
               REF.C.8883XX81
                                                                 1100
                                                                               MAP 88A2-7
               PLUG WRAP ERROR
               PAGE 7 OF 11
  042
                                                              050
  Probe 'New Sync' at test point A-OUT.
                                                              Failing FRU:
                                                              Board 01A-C2
  Signal ok?
                                                              Go to Page 11, Step 090,
  Y N
                                                              Entry Point CC.
     043
                                                           051
     Failing FRU:
                                                            Failing FRU:
     CCA card (of failing line); 01A-C2..
                                                           IF card (of failing line); 01A-C2..
     Go to Page 11, Step 090, Entry Point CC.
                                                           Go to Page 11, Step 090,
                                                           Entry Point CC.
  044
  Failing FRU:
                                                         052
  Board 01A-C2
                                                         Go to Page 6, Step 030, Entry Point YY.
  Go to Page 11, Step 090, Entry Point CC.
                                                      053
                                                      Failing FRU:
045
                                                      IF card (of failing line); 01A-C2..
EIA adapter?
NY
                                                      Go to Page 11, Step 090, Entry Point CC.
  046
                                                    054
                                                    Failing FRU:
  Go to Page 5, Step 016, Entry Point EE.
                                                    Board 01A-C2
047
                                                    Go to Page 11, Step 090, Entry Point CC.
Probe 'Receive Clock' at test point C-IN.
                                                 055
Signal ok?
                                                 Go to Page 8, Step 057, Entry Point DD.
Y N
  048
  Probe 'Receive Clock' at test point D-OUT.
  Signal ok?
  Y N
     049
     Go to Page 5, Step 023, Entry Point FF.
                                                                 13SEP82
                                                                               PN 8488132
```

EC 366582

1100

PEC 366493

MAP 88A2-7

1100 MAP 88A2-8

057 (Entry Point DD)

Data error

Probe 'Receive Data' at test point A-IN.

Signal ok?
Y N

058
Probe 'Receive Data' at test point B-OUT.

Signal ok?
Y N

059
Probe 'Transmit Data' at test point B-IN.

Signal ok?

060
Probe 'Transmit Data' at test point A-OUT.

Signal ok? Y N

061

Y N

Failing FRU: CCA card (of failing line); 01A-C2..

Go to Page 11, Step 090, Entry Point CC.

062

Failing FRU:

Board 01A-C2

Go to Page 11, Step 090, Entry Point CC.

13SEP82 PN 8488132 EC 366582 PEC 366493 1100 MAP 88A2-8



REF.C.8883XX81 Ζ 1100 MAP 88A2-9 **PLUG WRAP ERROR** PAGE 9 OF 11 063 069 EIA adapter? Probe 'Receive Data' at test point C-IN. ИY 064 Signal ok? Replace IF card (of failing card); 01A-C2.. Y N Run ILT 22, mode S (single run) to verify 070 correct operation. Probe 'Receive Data' at test point D-OUT. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test) Signal ok? ΥN Test result satisfactory? NY 071 Probe 'Transmit Data' at test point D-IN. 065 Same reference code as before? ИY Signal ok? NY 066 Follow new reference code. 072 Probe 'Transmit Data' at test point 067 C-OUT. Failing FRU: Board 01A-C2, cables of tailgate 01E Signal ok? Failing signals: Y N Receive Data Receive Data RTN 073 Transmit Data Failing FRU: Transmit Data RTN IF card (of failing line); 01A-C2.. Transmit A Transmit B Go to Page 11, Step 090, Entry Point CC. Receive A Receive B 074 Failing FRU: Go To Map 8880, Entry Point A. Board 01A-C2 Go to Page 11, Step 090, Go To Map 0001, Entry Point A. Entry Point CC. 13SEP82 PN 8488132 EC 366582 PEC 366493

1100

MAP 88A2-9

W X A A A B C 9 9 9 REF.C.8883XX81 MAP 88A2-10 1100 **PLUG WRAP ERROR** PAGE 10 OF 11 075 081 Failing FRU: Reconnect external modem, if disconnected. Board 01A-C2, cables of tailgate Go To Map 0001, Entry Point A. 082 Failing signal's: Same reference code as before? Receive Data Y N Transmit Data 083 Go To Map 8880, Entry Point A. Follow new reference code. 076 084 Failing FRU: Replace IF card (of failing line); 01A-C2.. Board 01A-C2 Run ILT 22, mode S (single run) to verify Go to Page 11, Step 090, correct operation. For ILT run procedure see **Entry Point CC.** Vol.14, STM FEAT, section: CA (CA Inline Test). 077 Failing FRU: Any error? IF card (of failing line); 01A-C2.. N Go to Page 11, Step 090, Entry Point CC. 085 Reconnect external modem, if disconnected. 078 Go To Map 0001, Entry Point A. Failing FRU: Board 01A-C2 086 Same reference code as before? Go to Page 11, Step 090, Entry Point CC. N 079 087 CCA clocking? Follow new reference code. Y N 080 Replace CCA card (of failing line); 01A-C2.. Run ILT 22, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test). Any error? 13SEP82 PN 8488132 EC 366582 PEC 366493 1100 MAP 88A2-10



REF.C.8883XX81

**PLUG WRAP ERROR** 

PAGE 11 OF 11

880

ÓÓ

Failing FRU:

Board 01A-C2, cables or tailgate 01E

Failing signals:

Receive Data

Receive Data RTN

Transmit Data

Transmit Data RTN

Receive Clock

Receive Clock RTN

Transmit Clock

Transmit Clock RTN

Transmit A

Transmit B

Receive A

Receive B

Go To Map 8880, Entry Point A.

089

Failing FRU:

CCA card (of failing line); 01A-C2..

Go to Step 090, Entry Point CC.

090

(Entry Point CC)

Replace or repair the failing FRU

(Entry Point XX)

Run ILT 22, mode S (single run) to verify

1100

MAP 88A2-11

correct operation.

For ILT run procedure see Vol.14, STM FEAT,

section: CA (CA Inline Test).

Any error?

Y N

091

Reconnect external modem, if disconnected

Go To Map 0001, Entry Point A.

092

Same reference code as before?

NY

Follow new reference code.

094

Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in

step 001 of this MAP.)

Y N

095

Replace next FRU.

Go to Step 090, Entry Point XX.

Go To Map 0001, Entry Point P.

PN 8488132

EC 366582

1100

MAP 88A2-11

13SEP82

PEC 366493

## REF.CODE 8884XX81 FIX 0000 PLUG WRAP ERROR

PAGE 1 OF 7

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	Α	1	001

#### **EXIT POINTS**

EXIT THIS MAP		T0	
PAGE STEP NUMBER NUMBER		MAP NUMBER	ENTRY POINT
2	004	0001	Α
4	010	0001	Α
4	014	0001	Α
4 5 6	029	0001	Α
6	041	0001	Α
7	045	0001	Α
7	050	0001	Α
7	055	0001	Р
4	017	8880	Α
4 5 6	028	8880	Α
	036	8880	Α
7	048	8880	Α

#### 001 (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

========	.========		
	SUPPL.CA		
=======	=======	======	=======
88841081	2160	88842081	2320
88841481	2160	88842481	2320
88841881	2150	88843081	l 2630 l
88841C81	2150 l	88848081	2420
========	========		
		88849081	2520

Possible Failing FRUs:

- CCA card (of failing line); (Step 001 continues)

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13SEP82 PN 8488133 EC 366582 PEC 366334 1110 MAP 88A4-1



## REF.C.8884XX81

#### **PLUG WRAP ERROR**

PAGE 2 OF 7

(Step 001 continued)

01A-C2..

- IF card (of failing line);
- 01A-C2..
- Board 01A-C2
- Cables

Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

YN

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 22, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

N

004

Go To Map 0001, Entry Point A.

Note 1:

For physical locations see the referenced page given in Table A.

1110

MAP 88A4-2

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 8488133

EC 366582

PEC 366334

1110

MAP 88A4-2

A REF.C.8884XX81
PLUG WRAP ERROR
PAGE 3 OF 7
005

Go to Step 006, Entry Point BB.

REF.C.8884XX81 1110 MAP 88A4-4 **PLUG WRAP ERROR** PAGE 4 OF 7 009 017 Replace CCA card (of failing line); Failing FRU: 01A-C2.. Board 01A-C2, cables or tailgate 01E Run ILT 22, mode S (single run) to verify Failing signals: correct operation. For ILT run procedure see Set A Vol.14, STM FEAT, section: CA (CA Inline Set B Test). Transmit A Transmit B Any error? Receive A YN Receive B Go To Map 8880, Entry Point A. 010 Switch DCE to normal function or reconnect DCE, if disconnected. 018 Go To Map 0001, Entry Point A. Start ILT 22, mode LI (scope loop). For ILT run procedure see Vol.14, STM FEAT, 011 section: CA (CA Inline Test). Same reference code as before? Y N Prepare the CE probe as follows: 012 Technology: multi Follow new reference conde. Latch: none Gate REF: GND Replace IF card (of failing line); 01A-C2.. Connect the power leads from the CE probe as follows: Run ILT 22, mode S (single run) to verify correct operation. For ILT run procedure see Red lead to: 01A-A2E2D03 (+5V) Vol.14, STM FEAT, section: CA (CA Inline Test) Black lead to: 01A-A2E2D08 (GND) **IMPORTANT** Any error? Y N When going through the following probing procedure, use the page in supplement CA 014 given in Table A to get pin locations and correct Switch DCE to normal function or reconnect CE probe indications. Note the paragraph DCE, if disconnected. 'signal checking'. Go To Map 0001, Entry Point A. Probe 'Receive Data' at test point A-IN. Same reference code as before? Y N Signal ok? Y N 016 Follow new reference code. 13SEP82 PN 8488133 PEC 366334 EC 366582 1110 MAP 88A4-4

REF.C.8884XX81 ΗJ 1110 MAP 88A4-5 **PLUG WRAP ERROR** PAGE 5 OF 7 019 025 Probe 'Receive Data' at test point B-OUT. Replace IF card (of failing line); 01A-C2.. Run ILT 22, mode S (single run) to verify Signal ok? correct operation. Y N For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test). 020 Probe 'Transmit Data' at test point B-IN. Test result satisfactory? YN Signal ok? Y N Same reference code as before? Y N Probe 'Transmit Data' at test point A-OUT. 027 Follow new reference code. 028 Signal ok? NY Failing FRU: Board 01A-C2, cable or tailgate 01E 022 Failing FRU: Failing signals: Receive Data CCA card (of failing line); 01A-C2.. Receive Data RTN Go to Page 7, Step 049, **Entry Point CC.** Go To Map 8880, Entry Point A. 023 029 Failing FRU: Go To Map 0001, Entry Point A. Board 01A-C2 030 Go to Page 7, Step 049, Entry Point CC. Probe 'Receive Data' at test point C-IN. 024 EIA adapter? Signal ok? Y N Probe 'Receive Data' at test point D-OUT. Signal ok? 13SEP82 PN 8488133 EC 366582 PEC 366334 6 ' -G H J 1110 MAP 88A4-5 L M 5 5 **REF.C.8884XX81** 1110 MAP 88A4-6 **PLUG WRAP ERROR** PAGE 6 OF 7 032 038 Probe 'Transmit Data' at test point D-IN. Failing FRU: IF card (of failing line); 01A-C2.. Signal ok? Go to Page 7, Step 049, Entry Point CC ΥN 039 033 Failing FRU: Probe 'Transmit Data' at test point Board 01A-C2 C-OUT. Go to Page 7, Step 049, Entry Point CC. Signal ok? 040 Y N Replace CCA card (of failing line); 01A-C2 034 Run ILT 22, mode S (single run) to verify Failing FRU: correct operation. For ILT run procedure see IF card (of failing line); 01A-C2.. Vol.14, STM FEAT, section: CA (CA Inline Test). Go to Page 7, Step 049, Entry Point CC. Any error? Y N Failing FRU: Board 01A-C2 041 Reconnect external modem, if disconnected. Go to Page 7, Step 049, Entry Point CC. Go To Map 0001, Entry Point A. 036 042 Failing FRU: Same reference code as before? Board 01A-C2, cable or tailgate 01E Y N Failing signals: 043 Receive Data Follow new reference code. Receive Data RTN 044 Go To Map 8880, Entry Point A. Replace IF card (of failing line); 01A-C2.. Run ILT 22, mode S (single run) to verify Failing FRU: correct operation. For ILT run procedure see Board 01A-C2 Vol.14, STM FEAT, section: CA (CA Inline Test). Go to Page 7, Step 049, Entry Point CC. Any error? Y N 13SEP82 PN 8488133 EC 366582 PEC 366334

1110

MAP 88A4-6

REF.C.8884XX81

**PLUG WRAP ERROR** 

PAGE 7 OF 7

045

Reconnect external modem, if disconnected. Go To Map 0001, Entry Point A.

046

Same reference code as before?

N Y

047

Follow new reference code.

048

Failing FRU:

Board 01A-C2, cables or tailgate 01E

Failing signals:

Receive Data

Receive Data RTN

Transmit Data

Transmit Data RTN

Receive Clock

Receive Clock RTN

Transmit Clock

Transmit Clock RTN

Go To Map 8880, Entry Point A.

049

(Entry Point CC)

Replace or repair the failing FRU.

Reconnect external modem, if disconnected.

(Entry Point XX)

Run ILT 22, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

YN

050

Go To Map 0001, Entry Point A.

051

Same reference code as before?

Y N

052

Follow new reference code.

053

Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

054

Replace next FRU.

Go to Step 049, Entry Point XX.

055

Go To Map 0001, Entry Point P.

13SEP82

PN 8488133

EC 366582

PEC 366334

1110

MAP 88A4-7





# REF.CODE 88A3XX81 FIX 0001 SELF TEST PLUG WRAP ERROR

PAGE 1 OF 8

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

# EXIT POINTS

EXIT THIS MAP		T0	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	Α
4	018	0001	Α
6	052	0001	Α
8	069	0001	Α
8	074	0001	Р
4	016	8880	Α
4	024	8880	Α

1120

MAP 88A6-1

001 (Entry Point A)

Go to Vol.14, STM FEAT, sectio: CA page corresponding to the reference code shown in Table A below.

#### Table A

REF.CODE	
=======	=======
[88A31081	2180
188A31481	2180
188A31881	2170
188A31C81	2170
========	=======

Possible Failing FRUs:

- CCA card (of failing line); 01A-C2..
- IF card (of failing line);01A-C2..
- Board 01A-C2
- Cables
- Self test wrap plug

(Step 001 continues)

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# REF.C.88A3XX81 SELF TEST PLUG WRAP

PAGE 2 OF 8

(Step 001 continued)

Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

Y N

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

1120

MAP 88A6-2

Note 1:

For physical locations see the referenced page given in Table A.

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 8488114

EC 366582

PEC 366334

1120

MAP 88A6-2

# REF.C.88A3XX81 SELF TEST PLUG WRAP

PAGE 3 OF 8

#### 006 (Entry Point BB)

Start ILT 24, mode LI (scope loop). For ITL run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi Latch: none Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V) Black lead to: 01A-A2E2D08 (GND)

#### **IMPORTANT**

When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

### CCA clock?

ΥN

#### 007

Probe 'Transmit Clock' at test point A-IN.

#### Signal ok?

ΥN

#### 800

Probe 'Transmit Clock' at test point B-OUT.

#### Signal ok?

Y N

#### 009

EIA adapter?

ΥN

#### 010

(Entry Point EE)

Replace IF card (of failing line); 01A-C2..

Run ILT 24, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

#### Test result satisfactory?

ΥN

#### 011

Same reference code as before?

N Y

#### 012

Follow new reference code.

#### 013

Disconnect the modem and the self test wrap plug.

Connect the cable wrap plug.

Run ILT 22, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, sectopm: CA (CA Inline Test).

#### Test result satisfactory?

ΥN

#### 014

Reference code 88832081?

ΥN

#### 015

Follow new reference code.

13SEP82 PN 8488114 EC 366582 PEC 366334



1120

MAP 88A6-3



K L **REF.C.88A3XX81** 1120 MAP 88A6-4 **SELF TEST PLUG WRAP** PAGE 4 OF 8 016 021 Failing FRU: (Entry Point FF) Board 01A-C2, cables or tailgate 01E Disconnect the modem and the self test wrap plug. Failing signals: Connect the cable wrap plug. **Transmit Clock** Receive Clock Run ILT 22, mode S (single run) to verify Transmit Clock RTN correct operation. For ILT run procedure see Vol.14, STM Receive Clock RTN FEAT, section: CA (CA Inline Test). Go To Map 8880, Entry Point A. 017 Test result satisfactory? Failing FRU: Y N Modem or self test wrap plug 022 Go to Page 8, Step 068, Entry Point CC. Reference code 8883XX81? Y N 018 Go To Map 0001, Entry Point A. 023 Follow new reference code. Probe 'Transmit Clock' at test point C-IN. 024 Failing FRU: Board 01A-C2, cables or tailgate 01E Signal ok? Y N Failing signals: Transmit Clock 020 Receive Clock Probe 'Transmit Clock' at test point D-OUT. Go To Map 8880, Entry Point A. Signal ok? 025 Failing FRU: Modem or self test wrap plug Go to Page 8, Step 068, Entry Point CC. 026 Failing FRU: Board 01A-C2 Go to Page 8, Step 068, Entry Point CC. 13SEP82 PN 8488114 EC 366582 PEC 366334 1120 MAP 88A6-4



B C J 3 3 4 **REF.C.88A3XX81** AMNPQ 1120 MAP 88A6-5 **SELF TEST PLUG WRAP** PAGE 5 OF 8 027 Probe 'Receive Clock' at test point Failing FRU: IF card (of failing line); 01A-C2.. D-OUT. Go to Page 8, Step 068, Entry Point CC. Signal ok? 028 YN Failing FRU: Board 01A-C2 035 Go to Page 8, Step 068, Entry Point CC. Go to Page 4, Step 021, Entry Point FF. Probe 'Receive Clock' at test point A-IN. 036 Failing FRU: Board 01A-C2 Signal ok? Y N Go to Page 8, Step 068, Entry Point CC. 030 037 Probe 'Receive Clock' at test point B-OUT. Failing FRU: IF card (of failing line); 01A-C2.. Signal ok? Y N Go to Page 8, Step 068, **Entry Point CC.** 031 EIA adapter? 038 YN Failing FRU: Board 01A-C2 032 Go to Page 8, Step 068, Entry Point CC. Go to Page 3, Step 010, Entry Point EE. 039 033 Probe 'Receive Clock' at test point C-IN. Go to Page 6, Step 041, Entry Point GG. 040 Signal ok? Go to Page 6, Step 041, Entry Point GG. 13SEP82 PN 8488114 EC 366582 PEC 366334 MNPQ 1120 MAP 88A6-5

# REF.C.88A3XX81 SELF TEST PLUG WRAP

PAGE 6 OF 8

041 (Entry Point GG)

Probe 'Receive Data' at test point A-IN.

Signal ok? Y N 042 Probe 'Receive Data' at test point B-OUT. Signal ok? Y N 043 EIA adapter? Y N 044 Probe 'Transmit Data' at test point B-IN. Signal ok? ΥN 045 Probe 'Transmit Data' at test point A-OUT. Signal ok?

8 8 T U V W

TUVW 1120 MAP 88A6-6 046 Failing FRU: CCA card (of failing line); 01A-C2.. Go to Page 8, Step 068, Entry Point CC. 047 Failing FRU: Board 01A-C2 Go to Page 8, Step 068, Entry Point CC. 048 Replace IF card (of failing line); 01A-C2.. Run ILT 24, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test). Test result satisfactory? Y N Same reference code as before? YN 050 Follow new reference code. Go to Page 4, Step 021, Entry Point FF. 052 Go To Map 0001, Entry Point A. 053 Probe 'Receive Data' at test point C-IN. Signal ok?

13SEP82

EC 366582

1120

PN 8488114

PEC 366334

MAP 88A6-6

REF.C.88A3XX81 Z A A A A A , A B C D E MAP 88A6-7 1120 **SELF TEST PLUG WRAP** PAGE 7 OF 8 054 059 Probe 'Receive Data' at test point D-OUT. Failing FRU: CCA card (of failing line); 01A-C2.. Signal ok? ΥN Go to Page 8, Step 068, Entry Point CC. 055 Probe 'Transmit Data' at test point D-IN. 060 Failing FRU: Board 01A-C2 Signal ok? ΥN Go to Page 8, Step 068, Entry Point CC. Probe 'Transmit Data' at test point 061 C-OUT. Failing FRU: IF card (of failing line); 01A-C2.. Signal ok? Go to Page 8, Step 068, Y N Entry Point CC. 062 Probe 'Transmit Data' at test point Failing FRU: B-IN. Board 01A-C2 Go to Page 8, Step 068, Entry Point CC. Signal ok? ΥN 063 Go to Page 4, Step 021, Entry Point FF. 058 Probe 'Transmit Data' at test point 064 A-OUT. Failing FRU: Board 01A-C2 Signal ok? Go to Page 8, Step 068, Entry Point CC. 13SEP82 PN 8488114 EC 366582 PEC 366334 1120 MAP 88A6-7



**REF.C.88A3XX81** 

1120 MAP 88A6-8

#### **SELF TEST PLUG WRAP**

PAGE 8 OF 8

065

Failing FRU:

IF card (of failing line); 01A-C2..

Go to Step 068, Entry Point CC.

066

Failing FRU:

Board 01A-C2

Go to Step 068, Entry Point CC.

067

Failing FRU:

CCA card (of failing line); 01A-C2..

Go to Step 068, Entry Point CC.

068

(Entry Point CC)

Replace or repair the failing FRU. Reconnect the self test wrap plug and the modem, if disconnected.

(Entry Point XX)

Run ILT 24, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

ΥN

069

Go To Map 0001, Entry Point A.

070

Same reference code as before?

Y N

071

Follow new reference code.

072

Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

ΥN

073

Replace next FRU.

Go to Step 068, Entry Point XX.

074

Go To Map 0001, Entry Point P.

13SEP82

PN 8488114

EC 366582

PEC 366334

1120

MAP 88A6-8



#### REF.CODE 8891XX81 FIX 0002

#### **MODEM WRAP ERROR**

PAGE 1 OF 8

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

#### .

**EXIT POINTS** 

EXIT THIS MAP		T0	
PAGE STEP NUMBER NUMBER		MAP NUMBER	ENTRY POINT
2	004	0001	А
7	031	0001	Α
7	037	0001	Р
7	042	0001	Р
6	023	8880	Α

1130

MAP 88A8-1

#### 001 (Entry Point A)

Possible failing FRUs:

- CCA card (of failing line);
- 01A-C2..
- IF card (of failing line); 01A-C2..
- Board 01A-C2
- Cables
- Modem

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

========	=======	========	
REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
=======		=======	======
88911481	2140	88911081	2130
88912481	2330	11	
========	=======	========	========

Visually check all hardware components of the failing communication line:

Note 1:

For physical locations see the referenced page given in Table A.

(Step 001 continues)

© Copyright IBM Corp. 1982 REF.CODE 8891XX81 AAA1130 13SEP82 PN 8488135 EC 366582 PEC 366334 1130 MAP 88A8-1

# REF.C.8891XX81 **MODEM WRAP ERROR**

PAGE 2 OF 8

(Step 001 continued) -IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

ΥN

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

ΥN

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

1130

MAP 88A8-2

EC 366582 PEC 366334

1130 MAP 88A8-2

13SEP82

PN 8488135

# REF.C.8891XX81 MODEM WRAP ERROR

PAGE 3 OF 8

#### 006 (Entry Point BB)

The 'additional information' (reference MAP 8886) must now be used to determine the failing signal.

On the screen ---->8891XX81YYYY ---Additional information---->YYYY

Digit ------1234

1 3

|------|
|
|
|
|
|
|
|
|
|

Digit 1 and digit 3 hold coded information about the signals being wrapped.

Digit 1 = expected signals
Digit 3 = received signals

To find the signal names and the failing signal, do the following:

Write down the value of digit 1 in binary notation.

Write down the value of digit 3 in binary notation.

Compare the two binary values bit by bit.

(Step 006 continues)

13SEP82

PN 8488135

EC 366582

PEC 366334

1130

1130

#### 11L1 .C.005 1XX6

#### **MODEM WRAP ERROR**

PAGE 4 OF 8

DIGIT	HEX	VALUE	BINARY VALUE   BIT 0 1 2 3
1			
3	 		
UNEQUA	AL BI	ΓS	>

An unequal bit position indicates a failing signal.

#### Note:

Digit 1 = expected signals Digit 3 = received signals Bit on = active signal Bit off = inactive signal

# Bit 0

----> Data Set Ready

#### Bit 1

----> Clear To Send

#### Bit 2

----> Rcv. Line Signal Detect

#### Bit 3

----> Ring Indicator

Start ILT 21, mode LI (scope loop). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follows:

Technology: multi Latch: none Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V) (Step 006 continues)

13SEP82

PN 8488135

EC 366582

PEC 366334

1130



# REF.C.8891XX81

#### **MODEM WRAP ERROR**

PAGE 5 OF 8

(Step 006 continued)

Black lead to: 01A-A2E2D08 (GND)

#### **IMPORTANT**

When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

#### Note:

If more than one signal is failing, select one as the 'failing signal' and go through the MAP checking only this signal.

#### (Entry Point SS)

Probe the failing signal at test point A-IN.

#### Signal ok?

ΥN

#### 007

Probe the failing signal at test point B-OUT.

#### Signal ok?

ΥN

#### 008

Probe the failing signal at test point C-IN.

#### Signal ok?

Y N

#### 009

Probe the failing signal at test point D-OUT.

#### Signal ok?

YN

6.6.6.6

ABCDE

1130

MAP 88A8-5

#### 010

Ε

Probe the failing signal at test point D-IN.

#### Signal ok?

Y N

#### 011

Probe the failing signal at test point C-OUT.

#### Signal ok?

Y N

#### 012

Probe the failing signal at test point B-IN.

#### Signal ok?

N Y

#### 013

Probe the failing signal at test point A-OUT.

#### Signal ok?

ΥN

#### 014

Failing FRU:

CCA card (of failing line); 01A-C2..

Go to Page 7, Step 029, Entry Point CC.

1 015

#### Failing FRU:

Board 01A-C2

Go to Page 7, Step 029, Entry Point CC.

13SEP82

PN 8488135

EC 366582

PEC 366334

FGF

1130

G H 5 5 A B C D J K 1130 5 5 5 5 5 1 REF.C.8891XX81 MAP 88A8-6 **MODEM WRAP ERROR** PAGE 6 OF 8 016 023 Failing FRU: Failing FRU: IF card (of failing line); 01A-C2.. Board 01A-C2, cable or tailgate Go to Page 7, Step 029, Entry Point CC. Go To Map 8880, Entry Point A. 017 Failing FRU: 024 Board 01A-C2 Failing FRU: Modem Go to Page 7, Step 029, Entry Point CC. Go to Page 7, Step 029, 018 Entry Point CC. Probe 'Test Control' at test point B-IN. 025 Signal ok? Failing FRU: ΥN Board 01A-C2 019 Go to Page 7, Step 029, Probe 'Test Control' at test point A-OUT. **Entry Point CC.** Signal ok? 026 Y N Failing FRU: IF card (of failing line); 01A-C2.. 020 Failing FRU: Go to Page 7, Step 029, Entry Point CC. CCA card (of failing line); 01A-C2.. Go to Page 7, Step 029, Entry Point CC. 027 Failing FRU: 021 Board 01A-C2 Failing FRU: Board 01A-C2 Go to Page 7, Step 029, Entry Point CC. Go to Page 7, Step 029, Entry Point CC. 028 Failing FRU: 022 CCA card (of failing line); 01A-C2.. Connect the cable wrap plug. Run ILT 22, mode S (single run). Go to Page 7, Step 029, Entry Point CC. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test). Test result satisfactory?

> 13SEP82 PN 8488135 EC 366582 PEC 366334 1130 MAP 88A8-6

MN

1130

1130

MAP 88A8-7

MAP 88A8-7

REF.C.8891XX81

1130 MA

MAP 88A8-8

Go to Page 7, Step 034, Entry Point TT.

13SEP82

PN 8488135

EC 366582

PEC 366334

1130

#### REF.CODE 8892XX81 FIX 0001

#### **MODEM WRAP ERROR**

PAGE 1 OF 6

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

# EXIT POINTS

EXIT THIS MAP		ТО	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	Α
5	030	0001	Α
6	036	0001	Α
6	041	0001	Р
4	019	8880	Α

1140

MAP 88AA-1

#### 001 (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

#### Table A

========	=======	========	
			SUPPL.CA
=======		=======	========
88921481	2140	88921C81	2130
88922481	2330		

#### Possible Failing FRUs:

- CCA card (of failing line);
- 01A-C2..
- IF card (of failing line);
- 01A-C2..
- Board 01A-C2
- Cables
- Modem

Visually check all hardware components of the failing communication line:

Note 1:

For physical locations see the referenced page given in Table A.

(Step 001 continues)

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1140

MAP 88AA-1

#### **MODEM WRAP ERROR**

PAGE 2 OF 6

(Step 001 continued)
-IF-card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

ΥN

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 8488136

EC 366582

PEC 366334

1140

MAP 88AA-2

PAGE 3 OF 6

Probe 'Receive Data' at test point D-OUT.

D

009

006

(Entry Point BB)

Start ILT 21, mode LI (scope loop). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Prepare the CE probe as follows:

Technology: multi Latch: none Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V) Black lead to: 01A-A2E2-D08 (GND)

#### **IMPORTANT**

When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Probe 'Receive Data' at test point A-IN.

# Signal ok? Y N 007 Probe 'Receive Data' at test point B-OUT. Signal ok? Y N 008 Probe 'Receive Data' at test point C-IN. Signal ok? Y N

Signal ok? ΥN 010 Probe 'Transmit Data' at test point D-IN. Signal ok? Y N 011 Probe 'Transmit Data' at test point C-OUT. Signal ok? N Y Probe 'Transmit Data' at test point B-IN. Signal ok? Y N 013 Probe 'Transmit Data' at test point A-OUT. Signal ok? 13SEP82 PN 8488136

EC 366582

1140

PEC 366334

MAP 88AA-3



REF.C.8892XX81 ABCEL 3333. 1140 MAP 88AA-4 **MODEM WRAP ERROR** PAGE 4 OF 6 014 020 Failing FRU: Failing FRU: CCA card (of failing line); 01A-C2.. Modem Go to Page 6, Step 035, Go to Page 6, Step 035, **Entry Point CC. Entry Point CC.** 015 021 Failing FRU: Failing FRU: Board 01A-C2 Board 01A-C2 Go to Page 6, Step 035, Go to Page 6, Step 035, **Entry Point CC. Entry Point CC.** 016 022 Failing FRU: Failing FRU: IF card (of failing line); 01A-C2.. IF card (of failing line); 01A-C2... Go to Page 6, Step 035, Entry Point CC. Go to Page 6, Step 035, Entry Point CC. 017 023 Failing FRU: Failing FRU: Board 01A-C2 Board 01A-C2 Go to Page 6, Step 035, Entry Point CC. Go to Page 6, Step 035, Entry Point CC. 018 024 Connect the cable wrap plug. CCA clocking? Y N Run ILT 22, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test). Probe 'Receive Clock' at test point A-IN. Test result satisfactory? Signal ok? YN N 019 026 Failing FRU: Probe 'Receive Clock' at test point Board 01A-C2, cable or tailgate 01E B-OUT. Failing signal: **Receive Data** Signal ok? Go To Map 8880, Entry Point A. 13SEP82 PN 8488136 EC 366582 PEC 366334 5 5 5 5 M N P 0 1140 MAP 88AA-4



N P Q

REF.C.8892XX81

**MODEM WRAP ERROR** 

PAGE 5 OF 6

027

Failing FRU:

IF card (of failing line); 01A-C2..

Go to Page 6, Step 035, Entry Point CC.

034

Failing FRU:

CCA card (of failing line); 01A-C2..

Go to Page 6, Step 035, Entry Point CC.

1140

MAP 88AA-5

028

Failing FRU:

Board 01A-C2

Go to Page 6, Step 035, Entry Point CC.

029

Replace CCA card (of failing line); 01A-C2..

Run ILT 21, mode S (single run) go verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

NY

030

Go To Map 0001, Entry Point A.

031

Connect the cable wrap plug.

Run ILT 22, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?

ΥN

032

Follow new reference code.

033

Failing FRU:

Modem

Go to Page 6, Step 035, Entry Point CC.

13SEP82

PN 8488136

EC 366582

PEC 366334

1140

**MAP 88AA-5** 

# REF.C.8892XX81 MODEM WRAP ERROR

PAGE 6 OF 6

1140

**MAP 88AA-6** 

035

Failing FRU:

CCA card (of failing line); 01A-C2..

(Entry Point CC)

Replace or repair the failing FRU.

Reconnect external modem, if disconnected.

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

036

Go To Map 0001, Entry Point A.

037

Reference code 8892XX81 or 8894XX81?

Y N

038

Follow new reference code.

039

Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

040

Replace next FRU.

Go to Step 035, Entry Point XX.

041

Go To Map 0001, Entry Point P.

13SEP82

PN 8488136

EC 366582

PEC 366334

1140

**MAP 88AA-6** 

## MODEM WRAP ERROR REF.CODE 8893XX81 FIX 0001

PAGE 1 OF 7

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	Α	1	001

#### **EXIT POINTS**

EXIT THIS MAP		то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	Α
6	046	0001	Α
7	051	0001	Α
7	056	0001	Р
3	012	8880	A
6	040	8880	Α

#### 001 (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

========	=======	========	=======
REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
=======	=======	:  =======	=======
[88931481]	2140	1188931081	2130
1889324811	2330	11	i i

#### Possible Failing FRUs:

- CCA card (of failing line); 01A-C2..
- IF card (of failing line); 01A-C2..
- Board 01A-C2
- Cables from board 01A-C2 to modem
- Modem

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:

For physical locations see the referenced page given in Table A.

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REF.CODE 8893XX81	
AAA1150	

13SEP82	PN 8488137
EC 366582	PEC 366334
1150	MAP 88AC-

# REF.C.8893XX81

PAGE 2 OF 7

(Step 001 continued)
-IF- card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

Y N

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 21, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 8488137

EC 366582

PEC 366334

1150

MAP 88AC-2



## MODEM WRAP ERROR REF.C.8893XX81

PAGE 3 OF 7

#### 006

#### (Entry Point BB)

Start ILT 21, mode LI (scope loop). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Prepare the CE probe as follows:

Technology: multi Latch: none Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V) Black lead to: 01A-A2E2D08 (GND)

#### **IMPORTANT**

When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

#### CCA clocking?

Ϋ́Υ

#### 007

Probe 'Transmit Clock' at test point A-IN.

#### Signal ok?

Y N

#### 800

Probe 'Transmit Clock' at test point B-OUT.

#### Signal ok?



1150

**MAP 88AC-3** 

009

D

Probe 'Transmit Clock' at test point C-IN.

#### Signal ok?

Y N

#### 010

Probe 'Transmit Clock' at test point D-OUT.

#### Signal ok?

Y N

#### 011

Connect the cable wrap plug. Run ILT 22, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

#### Test result satisfactory?

ΥN

#### 012

Failing FRU:

Board 01A-C2, cable or tailgate 01E

Failing signal:

Transmit Clock

Go To Map 8880, Entry Point A.

#### 013

Failing FRU:

Modem

Go to Page 7, Step 050, Entry Point CC.

#### 014

Failing FRU:

Board 01A-C2

Go to Page 7, Step 050, Entry Point CC.

13SEP82 PN 8488137 EC 366582 PEC 366334

1150

MAP 88AC-3

B C E 3 3 3 **MODEM WRAP ERROR** 1150 MAP 88AC-4 REF.C.8893XX81 PAGE 4 OF 7 015 022 Failing FRU: IF card (of failing line); 01A-C2.. Go to Page 5, Step 023, Entry Point DD. Go to Page 7, Step 050, Entry Point CC. 016 Failing FRU: Board 01A-C2 Go to Page 7, Step 050, Entry Point CC. 017 Probe 'Receive Clock' at test point A-IN. Signal ok? ΥN Probe 'Receive Clock' at test point B-OUT. Signal ok? Y N 019 Failing FRU: IF card (of failing line); 01A-C2.. Go to Page 7, Step 050, Entry Point CC. 020 Failing FRU: Board 01A-C2 Go to Page 7, Step 050, Entry Point CC. 021

Go to Page 5, Step 023, Entry Point DD.

13SEP82 PN 8488137 EC 366582 PEC 366334 1150 MAP 88AC-4

# MODEM WRAP ERROR REF.C.8893XX81 PAGE 5 OF 7

023 (Entry Point DD)

Probe 'Receive Data' at test point A-IN.

```
Signal ok?
Y N
  Probe 'Receive Data' at test point B-OUT.
  Signal ok?
  ΥN
     025
     Probe 'Receive Data' at test point C-IN.
     Signal ok?
     ΝY
        026
        Probe 'Receive Data' at test point
        D-OUT.
        Signal ok?
        ΥN
          027
          Probe 'Transmit Data' at test point
          D-IN.
          Signal ok?
           Y N
```

L 1150 MAP 88AC-5

Signal ok?
Y N
029
Probe 'Transmit Data' at test point B-IN.

030
Probe 'Transmit Data' at test point A-OUT.

Signal ok? Y N

Signal ok?
Y N

031
Failing FRU:
CCA card (of failing line); 01A-C2..

Go to Page 7, Step 050,
Entry Point CC.

032 Failing FRU: Board 01A-C2

Go to Page 7, Step 050, Entry Point CC.

033Failing FRU:IF card (of failing line); 01A-C2..Go to Page 7, Step 050, Entry Point CC.

| 034 Failing FRU:

Board 01A-C2

Go to Page 7, Step 050, Entry Point CC.

13SEP82 PN 8488137 EC 366582 PEC 366334 1150 MAP 88AC-5

**MODEM WRAP ERROR** 1150 **MAP 88AC-6** REF.C.8893XX81 PAGE 6 OF 7 035 041 Probe 'Test Control' at test point B-IN. Failing FRU: Modem Signal ok? Y N Go to Page 7, Step 050, **Entry Point CC.** 036 Probe 'Test Control' at test point A-OUT. 042 Failing FRU: Signal ok? Board 01A-C2 Y N Go to Page 7, Step 050, 037 Entry Point CC. Failing FRU: 043 CCA card (of failing line) 01A-C2... Go to Page 7, Step 050, Entry Point CC. Failing FRU: IF card (of failing line); 01A-C2.. 038 Failing FRU: Go to Page 7, Step 050, Entry Point CC. Board 01A-C2 044 Go to Page 7, Step 050, Entry Point CC. Failing FRU: Board 01A-C2 039 Connect the cable wrap plug. Go to Page 7, Step 050, Entry Point CC. Run ILT 22, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, 045 section: CA (CA Inline test). Replace CCA (of failing line); 01A-C2.. Run ILT 21, mode S (single run) to verify Test result satisfactory? correct operation. For ILT run procedure see Y N Vol.14, STM FEAT, section: CA (CA Inline test). 040 Failing FRU: Any error? Board 01A-C2, cable or tailgate 01E ΥN Failing signal: Receive Data Go To Map 0001, Entry Point A. Go To Map 8880, Entry Point A. 13SEP82 PN 8488137 EC 366582 PEC 366334

1150

MAP 88AC-6



MODEM WRAP ERROR

REF.C.8893XX81

PAGE 7 OF 7

047

Connect the cable wrap plug.

Run ILT 22, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?

ΥN

048

Follow new reference code.

049

Failing FRU:

Modem

Go to Step 050, Entry Point CC.

1150

MAP 88AC-7

050

(Entry Point CC)

Replace or repair the failing FRU.
Reconnect external modem, if disconnected.

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation.
For run procedure see Vol.14, STM FEST,

section: CA (CA Inline Test).

Any error?

Y N

051

Go To Map 0001, Entry Point A.

052

Same reference code as before?

ΥN

053

Follow new reference code.

054

Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

N

055

Replace next FRU.

Go to Step 050, Entry Point XX.

056

Go To Map 0001, Entry Point P.

13SEP82

PN 8488137

EC 366582

PEC 366334

1150

MAP 88AC-7



# MODEM WRAP ERROR REF.CODE 8894XX81 FIX 0001

PAGE 1 OF 6

# 1160

MAP 88AE-1

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	. 001

#### **EXIT POINTS**

EXIT THIS MAP		ТО	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	А
6	036	0001	Α
6	042	0001	Α
6	047	0001	Р
5	025	8880	Α

001 (Entry Point A)

Go to Vol 14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

#### Table A

========	=======	:========	========
REF.CODE	SUPPL.CA	REF.CODE	SUPPL.CA
======		:  ======	=======
1889414811	2140	88941C81	2130
1889424811	2330	11	1

#### Possible Failing FRUs:

- CCA card (of failing line);
- 01A-C2..
- IF card (of failing line);01A-C2..
- Board 01A-C2
- Cables from board 01A-C2 to modem
- Modem

Visually check all hardware components of the failing communication line:

AAA1160

iling communication line:

(Step 001 continues)

Note 1:

For physical locations see the referenced page given in Table A.

© Copyright IBM Corp. 1982 REF.CODE 8894XX81 13SEP82 PN 8488138 EC 366582 PEC 366334 1160 MAP 88AE-1

# **MODEM WRAP ERROR**

REF.C.8894XX81

PAGE 2 OF 6

(Step 001 continued) -IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

Y N

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 21, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

ΥN

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

1160

MAP 88AE-2

13SEP82

PN 8488138

EC 366582

PEC 366334

1160

MAP 88AE-2

## MODEM WRAP ERROR REF.C.8894XX81

PAGE 3 OF 6

#### 006 (Entry Point BB)

The 'additional information' (reference MAP 8886) must now be used.

On the screen ---->8894XX81YYYY ---Additional information---->YYYY
Digit -----1234
4

Digit 4 holds information about the test result.

Do the following:

Write down the value of digit 4 in binary notation.

DIGIT	HEX	VALUE		VALUE   1 2 3
4		.=	=	====-

Is bit 1 or 2 (or both) '1'?

ΝΥ

007

Failing FRU:

CCA card (of failing line); 01A-C2..

Go to Page 6, Step 041, Entry Point CC.

A 1160 MAP 88AE-3

#### 800

Start ILT 21, mode LI (scope loop). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Prepare the CE probe as follow:

Technology: multi Latch: none Gate REF: GND

Connect the power leads from the CE probe as follows:

Red lead to: 01A-A2E2D03 (+5V) Black lead to: 01A-A2E2D08 (GND)

#### **IMPORTANT**

When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Probe 'Receive Data' at test point A-IN.

#### Signal ok? Y N

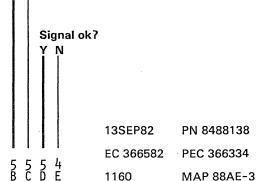
209

Probe 'Receive Data' at test point B-OUT.

Signal ok? Y N

010

Probe 'Receive Data' at test point C-IN.



A

**MODEM WRAP ERROR** HJKL 1160 MAP 88AE-4 REF.C.8894XX81 PAGE 4 OF 6 011 016 Probe 'Receive Data' at test POINT D-OUT. Failing FRU: CCA card (of failing line); 01A-C2.. Signal ok? Go to Page 6, Step 041, Y N **Entry Point CC.** 012 017 Probe 'Transmit Data' at test point D-IN. Failing FRU: Board 01A-C2 Signal ok? Go to Page 6, Step 041, Entry Point CC. Y N 018 013 Failing FRU: Probe 'Transmit Data' at test point IF card (of failing line); 01A-C2.. C-OUT. Go to Page 6, Step 041, Entry Point CC. Signal ok? 019 ΥN Probe Test Control at test point B-IN. 014 Signal ok? Probe 'Transmit Data' at test point Y N B-IN. 020 Probe Test Control at test point A-OUT. Signal ok? Y N Signal ok? YN Probe 'Transmit Data' at test point 021 A-OUT. Failing FRU: CCA card (of failing line) 01A-C2... Go to Page 6, Step 041, Entry Point CC. Signal ok? 022 Failing FRU: Board 01A-C2 Go to Page 6, Step 041, Entry Point CC. 13SEP82 PN 8488138 EC 366582 PEC 366334 5 G H J K L 1160 MAP 88AE-4





**MODEM WRAP ERROR** REF.C.8894XX81 PAGE 5 OF 6 023 Failing FRU: Board 01A-C2 Go to Page 6, Step 041, **Entry Point CC.** 024 Connect the cable wrap plug. Run ILT 22, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test). Test result satisfactory? Y N 025 Failing FRU: Board 01A-C2, cable or tailgate 01E Failing signal: Receive Data Go To Map 8880, Entry Point A. 026 Failing FRU: Modem Go to Page 6, Step 041, Entry Point CC. 027 Failing FRU: Board 01A-C2 Go to Page 6, Step 041, Entry Point CC. 028 Failing FRU:

IF card (of failing line); 01A-C2..

Go to Page 6, Step 041, Entry Point CC.

1160 MAP 88AE-5 029 Failing FRU: Board 01A-C2 Go to Page 6, Step 041, Entry Point CC. 030 CCA clocking? Y N Probe 'Receive Clock' at test point A-IN. Signal ok? ΥN 032 Probe 'Receive Clock' at test point B-OUT. Signal ok? NY 033 Failing FRU: IF card (of failing line); 01A-C2.. Go to Page 6, Step 041, Entry Point CC. 034 Failing FRU: Board 01A-C2 Go to Page 6, Step 041, Entry Point CC.

> 13SEP82 PN 8488138 EC 366582 PEC 366334 1160 MAP 88AE-5

# **MODEM WRAP ERROR**

#### REF.C.8894XX81

PAGE 6 OF 6

Replace CCA (of failing line); 01A-C2..

Run ILT 21, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

YN

036

Go To Map 0001, Entry Point A.

037

Connect the cable wrap plug.

Run ILT 22, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?

Y N

Follow new reference code.

039

Failing FRU:

Go to Step 041, Entry Point CC.

040

Failing FRU:

CCA card (of failing line); 01A-C2..

Go to Step 041, Entry Point CC.

1160

**MAP 88AE-6** 

041

(Entry Point CC)

Replace or repair the failing FRU. Reconnect external modem if disconnected.

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

Go To Map 0001, Entry Point A.

043

Reference code 8894XX81 or 8892XX81?

Y N

044

Follow new reference code.

045

Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

046

Replace next FRU.

Go to Step 041, Entry Point XX.

047

Go To Map 0001, Entry Point P.

13SEP82

PN 8488138

EC 366582

PEC 366334

1160

MAP 88AE-6



# REF.CODE 8875XX81 FIX 0000 INTERFACE CARD WRAP ERROR

PAGE 1 OF 3

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

EXIT POINTS					
EXIT TH	IS MAP	T0			
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT		
2	004	0001	Α		
3 3	010	0001	Α		
3	016	0001	Α		
3	015	0001	Р		

1170

MAP 88AF-1

001.

#### (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

========		========	
:	SUPPL.CA		
======	=======	=======	=======
88751081	2120	88759881	2240
188751881	2110	8875A881	2260
188752081	2310	8875B881	2220
[88753081	2630	8875C881	2280
188755081	8200		
188758081	2410	[8875D881	2240
188759081	2510	8875E881	2200

#### Possible Failing FRUs:

- CCA card (of failing line);
- 01A-C2..
- IF card (of failing line);

01A-C2.. (Step 001 continues)

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13SEP82

PN 8488129

EC 366582

PEC 366334

1170

MAP 88AF-1



# REF.C.8875XX81 IFC WRAP ERROR

PAGE 2 OF 3

(Step 001 continued) - Board 01A-C2

Visually check all hardware components of the failing communication line:

-IF- card 01A-C2.. (Note 1) Check for proper seating and for corect jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

ΥN

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 21, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

1170

1AP 88AF-2

Note 1:

For physical locations see the referenced page given in Table A.

Note 2

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 8488129

EC 366582

PEC 366334

1170

MAP 88AF-2



# REF.C.8875XX81 **IFC WRAP ERROR**

PAGE 3 OF 3

006

(Entry Point BB)

Replace the IF card (of failing line); 01A-C2..

Run ILT 21, mode S (signel run). For ILT run procedure see Vol.14 STM FEAT, section: CA (CA Inline Test).

Test result satisfactory?

Y N

007

Same reference code as before?

ΥN

800

Follow new reference code.

Replace the CCA card (of failing line); 01A-C2..

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

Go To Map 0001, Entry Point A.

011

Same reference code as before?

Y N

Follow new reference code.

ΑВ 1170 MAP 88AF-3

013

Have all possible failing FRUs been replaced?

(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

014

Replace next FRU.

Go to Step 009, Entry Point XX.

015

Go To Map 0001, Entry Point P.

016

Go To Map 0001, Entry Point A.

13SEP82

PN 8488129

EC 366582

PEC 366334

1170

MAP 88AF-3

А В

#### REF.CODE 8885XX81 FIX 0000

#### **PLUG WRAP ERROR**

PAGE 1 OF 4

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

#### **EXIT POINTS**

EXIT THIS MAP		ТО	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	Α
3	011	0001	Α
3	015	0001	Α
4	023	8880	Α

1180

MAP 88B0-1

#### 001 (Entry Point A)

Go to Vol. 14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

#### Table A

	SUPPL.CA		
88851081			1
88851481	2160	  88852481	2320
  88851881	2150	  88853081	   2630
  88851081	2150	  88858081	   2420
========		  88859081	
	:	=======	=======

#### Possible Failing FRUs:

- CCA card (of failing line); 01A-C2..
- IF card (of failing line); 01A-C2..
- Board 01A-C2
- Cables

#### (Step 001 continues)

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REF.CODE 8885XX81	EC 366582	PEC 366334
AAA1180	1180	MAP 88B0-1

# REF.C.8885XX81 PLUG WRAP ERROR

PAGE 2 OF 4

(Step 001 continued)

Visually check all hardware components of the failing communication line:

-IF- card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

ΥN

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 22, mode S (single run) For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?

ΥN

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

1180

MAP 88B0-2

Note 1:

For physical locations see the referenced page given in Table A.

Note 2:

See Vol. 14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 8488134

EC 366582

PEC 366334

1180

MAP 88B0-2

EIA adapter? Y N

(Entry Point BB)

006

007 Go to Page 4, Step 023, Entry Point CC.

008 Reference code 88851881?

009

Reference code 88851081? Y N

010
Replace the IF card (of failing line);
01A-C2..

Run ILT 22, mode S (single run) to verify correct operation.

For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?

ΥN

011

Go To Map 0001, Entry Point A.

012

Same reference code as before?

ΥN

013

Follow new reference code.

ABC

MAP 88B0-3

014

Replace the CCA card (of failing line); 01A-C2..

1180

Run ILT 22, mode S (single run) to verify correct operation.

For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?

ΥN

015

Go To Map 0001, Entry Point A.

016

Same reference code as before?

Y N

017

Follow new reference code.

018

Go to Page 4, Step 023, Entry Point CC.

019

Run ILT 21, mode S (single run) to verify correct operation.

For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

020

Go to Page 4, Step 023, Entry Point CC.

021

Follow new reference code.

022

Go to Page 4, Step 023, Entry Point CC.

13SEP82

PN 8488134

EC 366582

PEC 366334

1180

MAP 88B0-3

A B C

# REF.C.8885XX81 PLUG WRAP ERROR

PAGE 4 OF 4

023 (Entry Point CC)

Failing FRU:
Board 01A-C2, cables or tailgate 01E

Failing signals: Transmit Data Receive data Transmit Data RTN Receive Data RTN

Go To Map 8880, Entry Point A.

1180

MAP 88B0-4

13SEP82

PN 8488134

EC 366582

PEC 366334

1180

MAP 88B0-4

#### 1190

MAP 88B1-1

#### **MODEM WRAP ERROR**

PAGE 1 OF 3

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

#### **EXIT POINTS**

EXIT TH	IS MAP	ТО	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	A
3	014	0001	Α
3	013	0001	Р

#### 001

(Entry Point A)

Possible Failing FRUs:

- Board 01A-C2
- Cables
- Modem

Go to Vol. 14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

#### Table A

=======	-=======	==		========	=
REF.CODE	suppl.CA		REF.CODE	SUPPL.CA	l
=======		1		=======	l
1889514811	2140	11	88951081	2130	
188952481	2330	11			
					_

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:

For physical locations see the referenced page given in Table A.

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# REF.C.8895XX81 MODEM WRAP ERROR

PAGE 2 OF 3

(Step 001 continued)
-IF- card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

Y N

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:

See Vol. 14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82 PN 8488139 EC 366582 PEC 366334

MAP 88B1-2

1190

#### REF.C.8895XX81

#### **MODEM WRAP ERROR**

PAGE 3 OF 3

#### 006

#### (Entry Point BB)

Disconnect the modem and connect the cable wrap plug.

Run ILT 22, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

#### Test result satisfactory?

Y N

007

Follow new reference code.

#### 800

Failing FRU:

Modem

Replace or repair the failing FRU

Reconnect the modem

#### (Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

#### Test result satisfactory?

Y N

009

Same reference code as before?

ΥN

010

Follow new reference code.

A B 1190 MAP 88B1-3

011

Have all possible failing FRUs been replaced?

(For a complete list see possible failing FRUs in step 001 of this MAP.)

ΥN

012

Replace next FRU.

Go to Step 008, Entry Point XX.

Go To Map 0001, Entry Point P.

Go To Map 0001, Entry Point A.

13SEP82

PN 8488139

EC 366582

PEC 366334

1190

MAP 88B1-3

A B



## REF.CODE 88A4XX81 FIX 0001 SELF TEST PLUG WRAP ERROR

PAGE 1 OF 6

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	А	1	001

# EXIT POINTS

EXIT THIS MAP		ТО		
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT	
2	004	0001	A	
4	019	0001	Α	
5	035	0001	Α	
6	042	0001	· A	
6	047	0001	Р	

1200

MAP 88B2-1

#### 001 (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

#### Table A

========	
REF.CODE	SUPPL.CA
=======	========
88A41081	
188A41481	2180
88A41881	2170
188A41C81	2170

#### Possible Failing FRUs:

- CCA card (of failing line);01A-C2..
- IF card (of failing line); 01A-C2..
- Board 01A-C2
- Cables
- Self test wrap plug

(Step 001 continues)

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### **REF.C.88A4XX81**

#### **SELF TEST PLUG WRAP**

PAGE 2 OF 6

(Step 001 continued)

Visually check all hardware components of the failing communication line:

-IF- card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

ΥN

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y: N

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

1200

MAP 88B2-2

Note 1:

For physical locations see the referenced page given in Table A.

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 8488115

EC 366582

PEC 366334

1200

MAP 88B2-2

PAGE 3 OF 6

#### 006 (Entry Point BB)

The 'additional information' (reference MAP 8886) must now be used.

On the screen ---->88A4XX81YYYY
---Additional information---->YYYY
Digit -----1234
4

Digit 4 holds information about the test result.

Do the following:

Write down the value of digit 4 in binary notation.

DIGIT	HEX	VALUE	BINA	ARY	VAL	JE
			BIT		-	
-			-			1
4			1	•		
						-1

#### Is bit 1 or 2 (or both) '1'?

YИ

007

Failing FRU:

CCA card (of failing line); 01A-C2..

Go to Page 6, Step 041, Entry Point CC.

A 1200 MAP 88B2-3

800

Start ILT 24, mode LI (scope loop). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Prepare the CE probe as follows:

Technology: multi Latch: none Gate REF: GND

Connect the power leads from the CE probe as follows:

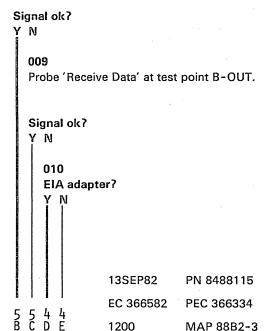
Red lead to: 01A-A2E2D03 (+5V) Black lead to: 01A-A2E2D08 (GND)

#### **IMPORTANT**

When going through the following probing procedure, use the page in supplement CA given in Table A to get pin locations and correct CE probe indications. Note the paragraph 'signal checking'.

Failing signal:
----> Receive Data

Probe 'Receive Data' at test point A-IN.





**REF.C.88A4XX81** DFG 1200 MAP 88B2-4 **SELF TEST PLUG WRAP** PAGE 4 OF 6 011 018 Probe 'Transmit Data' at test point B-IN. Go to Page 5, Step 038, Entry Point AA. 019 Signal ok? Go To Map 0001, Entry Point A. Y N 012 Probe 'Receive Data' at test point C-IN. Probe 'Transmit Data' at test point A-OUT. Signal ok? Signal ok? Y N Y N 021 013 Probe 'Receive Data' at test point D-OUT. Failing FRU: CCA card (of failing line); 01A-C2.. Signal ok? Go to Page 6, Step 041, Entry Point CC. Y N 014 022 Failing FRU: Probe 'Transmit Data' at test point D-IN. Board 01A-C2 Go to Page 6, Step 041, Entry Point CC. Signal ok? Y N Replace IF card (of failing line); 01A-C2.. Probe 'Transmit Data' at test point Run ILT 24, mode S (single run) to verify C-OUT. correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test). Signal ok? Y N Test result satistactory? 024 Y N Probe 'Transmit Data' at test point B-IN. Reference code 88A4XX81 or 88A2XX81? Y N Signal ok? 017 Follow new reference code. 13SEP82 PN 8488115 EC 366582 PEC 366334 5 5 5 5 5 5 5 H J K L M N 1200 F G MAP 88B2-4



**REF.C.88A4XX81** J K L M N **SELF TEST PLUG WRAP** PAGE 5 OF 6 025 Probe 'Transmit Data' at test point A-OUT. Signal ok? Y N 026 Failing FRU: CCA card (of failing card); 01A-C2.. Go to Page 6, Step 041, Entry Point CC. 027 Failing FRU: Board 01A-C2 Go to Page 6, Step 041, Entry Point CC. 028 Failing FRU: IF card (of failing line); 01A-C2.. Go to Page 6, Step 041, **Entry Point CC.** 029 Failing FRU: Board 01A-C2 Go to Page 6, Step 041, Entry Point CC. Go to Step 038, Entry Point AA. 031 Failing FRU: Board 01A-C2 Go to Page 6, Step 041, Entry Point CC.

```
1200
                              MAP 88B2-5
     032
     Failing FRU:
     IF card (of failing line); 01A-C2..
     Go to Page 6, Step 041, Entry Point CC.
  033
  Failing FRU:
  Board 01A-C2
  Go to Page 6, Step 041, Entry Point CC.
034
Replace CCA
Run ILT 24, mode S (single run) to verify
correct operation. For ILT procedure see
Vol.14, STM FEAT, section: CA (CA Inline
Test).
Any error?
NY
  035
  Go To Map 0001, Entry Point A.
036
Reference code 88A4XX81 or 88A2XX81?
Y N
  037
  Follow new reference code.
038
(Entry Point AA)
Disconnect the modem and the self test wrap
plug. Connect the cable wrap plug.
Run ILT 22, mode S (single run) to verify
correct operation. For ILT run procedure see
Vol.14, STM FEAT, section: CA (CA Inline
Test).
Test result satistactory?
```

13SEP82

1200

EC 366582

PN 8488115

PEC 366334

MAP 88B2-5

Self test wrap plug.

Go to Step 041, Entry Point CC.

1200 MAP 88B2-6

## 041

#### (Entry Point CC)

Replace or repair the failing FRU. Reconnect the self test wrap plug and the modem if disconnected.

#### (Entry Point XX)

Run ILT 24, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?
Y N

042
Go To Map 0001, Entry Point A.

043
Reference code 88A4XX81 or 88A2XX81?
Y N

044
Follow new reference code.

045
Have all possible failing FRUs been replaced?

Have all possible failing FRUs been replaced? (For a complete list see possible failing FRUs step 001 of this MAP.)

Y N

046
Replace next FRU.
Go to Step 041, Entry Point XX.

047
Go To Map 0001, Entry Point P.

13SEP82 PN 8488115 EC 366582 PEC 366334 1200 MAP 88B2-6

# SELF TEST PLUG WRAP ERROR

PAGE 1 OF 3

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

#### **EXIT POINTS**

EXIT THIS MAP		ТО	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
2	004	0001	A
3	014	0001	A
3	013	0001	P

#### 001 (Entry Point A)

Go to Vol. 14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

========	=====
REF.CODE	SUPPLI
•	ICA
=======	====
88A51081	
188A51481	
188A51881	2170
188A51C81	

#### Possible Failing FRUs:

- Board 01A-C2
- Cables
- Self test wrap plug

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:

For physical locations see the referenced page given in Table A.

© Copyright IBM Corp. 1982 REF.CODE 88A5XX81 AAA1210 13SEP82 PN 8488116 EC 366582 PEC 366334 1210 MAP 88B3-1



# REF.C.88A5XX81 SELF TEST PLUG WRAP

PAGE 2 OF 3

(Step 001 continued)
-IF-card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

ΥN

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error ?

YN

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:

See Vol. 14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 8488116

EC 366582

PEC 366334

1210

MAP 88B3-2

## REF.C.88A5XX81 SELF TEST PLUG WRAP

PAGE 3 OF 3

#### 006 (Entry Point BB)

Disconnect the modem and the self test wrap plug and connect the cable wrap plug.

#### (Entry Point XX)

Run ILT 22, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

#### Test result satisfactory?

ΥN

007

Follow new reference code.

#### 800

Failing FRU:
Self test wrap plug.
Replace or repair the failing FRU.
Reconnect the self test wrap plug and the modem.

Run ILT 24, mode S (single run) to verify correct operation.
For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

#### Test result satisfactory?

ΥN

009

Same reference code as before?

ΥN

010

Follow new reference code.

A B 1210 MAP 88B3-3

O11
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

012

. 013 Go To Map 0001, Entry Point P.

Go to Step 006, Entry Point XX.

014 Go To Map 0001, Entry Point A.

Replace next FRU.

13SEP82

PN 8488116

EC 366582

PEC 366334

1210

MAP 88B3-3

A B



## REF.CODE 8876XX81 FIX 0000 INTERFACE CARD WRAP ERROR

PAGE 1 OF 4

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	A	1	001

#### **EXIT POINTS**

EXIT TH	IS MAP	T0	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3 3 4	004	0001	Α
3	010	0001	Α
4	016	0001	Α
4	015	0001	Р

001

#### (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

Table A

•	SUPPL.CA		
•		•	,
88761081	2120	88769881	2240
100761001	0110	100764001	2260
188761881	2110	8876A881	2260
188762081	2210	8876B881	2220
100/62001	2310	1	2220
188763081	2630	8876c881	2280
1	2030   	1	2200
88765081	8200		1
1			
88768081	2410	8876D881	2240
88769081	2510 l	[8876E881]	2200

#### Possible Failing FRUs:

- CCA card (of failing line);
- 01A-C2..
- IF card (of failing line); 01A-C2.. (Step 001 continues)

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AAA1211

13SEP82 PN 5683227 EC 366582 PEC 366334 MAP 88B5-1 1211



### IFC WRAP ERROR

PAGE 2 OF 4

(Step 001 continued) - Board 01A-C2

If X.21 XLCA adapter is installed:

-Cables and connectors from board 01A-C2 to DCE (Data Communication Equipment)

-DCE

Visually check all hardware components of the failing communication line:

-IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

ΥN

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error ?

3 3

Note 1:

For physical locations see the referenced page given in Table A.

1211

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 5683227

EC 366582

PEC 366334

1211

MAP 88B5-2



A B REF.C.8876XX81
2 IFC WRAP ERROR
PAGE 3 OF 4

004
Go To Map 0001, Entry Point A.

Go to Step 006, Entry Point BB.

1211

MAP 88B5-3

006

(Entry Point BB)

Replace the IF card (of failing line); 01A-C2..

Run ILT 21, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Test result satisfactory?

ΥN

007

Same reference code as before?

N Y

800

Follow new reference code.

009

Replace the CCA card (of failing line); 01A-C2..

(Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation. For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

Any error?

YN

010

Go To Map 0001, Entry Point A.

011

Same reference code as before?

ΥN

012

Follow new reference code.

13SEP82

PN 5683227

EC 366582

PEC 366334

4 4

1211

MAP 88B5-3

C D REF.C.8876XX81

3 3

IFC WRAP ERROR

PAGE 4 OF 4

013

Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

014

Replace next FRU.

Go to Page 3, Step 009, Entry Point XX.

015

Go To Map 0001, Entry Point P.

Go To Map 0001, Entry Point A.

016

1211 MAP 88B5-4

13SEP82 PN 5683227 EC 366582 PEC 366334 1211 MAP 88B5-4

## REF.CODE 8886XX81 FIX 0000 PLUG WRAP ERROR

PAGE 1 OF 3

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

#### **EXIT POINTS**

EXIT THIS MAP		ТО	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
2 3	004	0001	A
	009	8880	A

#### 001 (Entry Point A)

Go to Vol. 14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below

#### Table A

========	========	=======	========
	SUPPL.CA		
=======	=======	=======	=======
88861081	:	88862081	2320
188861481	2160	88862481	2320
188861881	2150	188863081	2640
188861C81	2150	188868081	2420
		88869081	2520
========		=======	========

#### Possible Failing FRUs:

- If card (of failing line); 01A-C2...
- Board 01A-C2
- Cables

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:

For physical locations see the referenced page given in Table A.

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## REF.C.8886XX81 PLUG WRAP ERROR

PAGE 2 OF 3

(Step 001 continued)
-IF- card 01A-C2.. (Note 1)
Check for proper seating and
for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

Y N

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 22, mode S (single run). For ILT run procedure see Vol. 14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:

See Vol. 14, STM FEAT, section: CA, (Adapter Interface Cards).

13SEP82

PN 5683228

EC 366582

PEC 366334

1212

MAP 88B6-2

## REF.C.8886XX81 PLUG WRAP ERROR

PAGE 3 OF 3

#### 006 (Entry Point BB)

Replace IF card (of failing line) 01A-C2... Run ILT 22, mode S (single run). For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

#### Test result satisfactory?

ΥN

#### 007

Same reference code as before?

Y N

#### 800

Follow new reference code.

#### 009

Failing FRU:

Board 01A-C2, cables or tailgate 01E

Go To Map 8880, Entry Point A.

#### 010

Reconnect DCE/ modem, if disconnected, or switch DCE to normal function.

13SEP82

PN 5683228

EC 366582

PEC 366334

1212

MAP 88B6-3



#### REF.CODE 8896XX81 FIX 0001

#### **MODEM WRAP ERROR**

PAGE 1 OF 3

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

#### 1213

MAP 88B7-1

#### **EXIT POINTS**

EXIT TH	IS MAP	ТО	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
2	004	0001	A
3	014	0001	A
3	013	0001	P

#### 001 (Entry Point A)

Possible failing FRUs:

- Board 01A-C2
- Cables
- Modem

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

#### Table A

========	=======	========	========
		REF.CODE	
======	=======	=======	======
88961481	2140	88961C81	2130
1889624811	2330	11	

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:

For physical locations see the referenced page given in Table A.

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PN 5683229

EC 366582

PEC 366334

1213

MAP 88B7-1

## REF.C.8896XX81 **MODEM WRAP ERROR**

PAGE 2 OF 3

(Step 001 continued) -IF- card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

Y N

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 21, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error?

Y N

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

> 13SEP82 PN 5683229 EC 366582 PEC 366334

1213

MAP 88B7-2



## REF.C.8896XX81 MODEW WRAP ERROR

PAGE 3 OF 3

#### 006

(Entry Point BB)

Disconnect the modem and connect the cable wrap plug.

Run ILT 22, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

#### Test result satisfactory?

ΥN

007

Follow new reference code.

#### 800

Failing FRU:

Modem

Replace or repair the failing FRU.

Reconnect the modem.

#### (Entry Point XX)

Run ILT 21, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

#### Test result satisfactory?

YN

009

Same reference code as before?

ΥN

010

Follow new reference code.

A B 1213 MAP 88B7-3

O11
Have all possible failing FRUs been replaced?
(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

O12
Replace next FRU.
Go to Step 008, Entry Point XX.

O13
Go To Map 0001, Entry Point P.

014 Go To Map 0001, Entry Point A.

13SEP82

PN 5683229

EC 366582

PEC 366334

1213

MAP 88B7-3

АВ

#### 1214

#### MAP 88B8-1

## SELF TEST PLUG WRAP ERROR

#### **ENTRY POINTS**

PAGE 1 OF 3

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	А	1	001

#### **EXIT POINTS**

EXIT TH	IS MAP	T0	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0001	Α
3	014	0001	Α
3	013	0001	Р

#### 001 (Entry Point A)

Go to Vol.14, STM FEAT, section: CA, page corresponding to the reference code shown in Table A below.

#### Table A

========	=====
REF.CODE	SUPPLI
1	CA
=======	=====
88A61081	21801
88A61481	
88A61881	2170
88A61C81	
=========	=====

#### Possible Failing FRUs:

- Board 01A-C2
- Cables
- Self test wrap plug

Visually check all hardware components of the failing communication line:

(Step 001 continues)

Note 1:

For physical locations see the referenced page given in Table A.

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## **REF.C.88A6XX81 SELF TEST PLUG WRAP**

PAGE 2 OF 3

(Step 001 continued) -IF-card 01A-C2.. (Note 1) Check for proper seating and for correct jumpering (Note 2)

- -CCA-card 01A-C2.. (Note 1) Check for proper seating.
- -Check that all cables and connectors from board 01A-C2 to the Data Communication Equipment (DCE) are seated properly.
- -Check that the DCE is set up adequately.

Any problem detected?

Y N

002

Go to Page 3, Step 006, Entry Point BB.

003

Make the appropriate correction.

Run ILT 24, mode S (single run) For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline Test).

Any error? Y N

004

Go To Map 0001, Entry Point A.

005

Go to Page 3, Step 006, Entry Point BB.

Note 2:

See Vol.14, STM FEAT, section: CA, (Adapter Interface Cards).

1214

MAP 88B8-2

13SEP82

PN 8488664

EC 366582

PEC 366334

MAP 88B8-2

1214



## REF.C.88A6XX81 SELF TEST PLUG WRAP

PAGE 3 OF 3

#### 006

(Entry Point BB)

Disconnect the modem and the self test wrap plug and connect the cable wrap plug.

#### (Entry Point XX)

Run ILT 22, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

#### Test result satisfactory?

Y N

007

Follow new reference code.

#### 800

Failing FRU:

Self test wrap plug.

Replace or repair the failing FRU.

Reconnect the self test wrap plug and the modem.

Run ILT 24, mode S (single run) to verify correct operation.

For ILT run procedure see Vol.14, STM FEAT, section: CA (CA Inline test).

#### Test result satisfactory?

ΥN

009

Same reference code as before?

Y N

010

Follow new reference code.

1214

MAP 88B8-3

011

A B

Have all possible failing FRUs been replaced?

replaced?

(For a complete list see possible failing FRUs in step 001 of this MAP.)

Y N

012

Replace next FRU.

Go to Step 006, Entry Point XX.

013

Go To Map 0001, Entry Point P.

014

Go To Map 0001, Entry Point A.

13SEP82

PN 8488664

EC 366582

PEC 366334

1214

MAP 88B8-3

АВ

## REF.CODE 88FFFF80 FIX 0001 CA CONFIGURATION MAP

PAGE 1 OF 8

#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8xxx	A	1	001

#### (Entry Point A)

CA Configurator Update

If CA is installed, a CA configuration table has to be updated for each CA line. (See CA documentation, Section CA tools). The necessary information must be obtained from the physical installation planning documents. The data from the configuration table must also be added to a CA form provided in the Supplement to MAPs.

How to display the configuration table:

- 1. While holding ALTERNATE key, press MODE SELECT key.
- 2. Enter "D" (CA Tools).
- 3. Enter "A" (CA Configuration Table Update) Refer to Vol.14, STM FEAT, section: CA (CA Tools Update Configuration Table).
- Configuration for first CA line (line 30) will now be displayed.

(Step 001 continues)

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REF.CODE 88FFFF80 EC 366582 PEC 366388
AAA1215 1215 MAP 88FF-1



## REF.C.88FFFF80 CA CONFIGURATION

PAGE 2 OF 8

```
(Step 001 continued)
Do you want to configure line 30?
Y N
  002
  (Entry Point D)
  While holding ALTERNATE, press PF4 key.
  Next CA line is displayed.
  Do you want to change this
  configuration?
  Y N
    003
    Last line installed?
    Y N
      004
      Go to Step 002, Entry Point D.
    Go to Page 5, Step 011, Entry Point C.
  006
  Go to Step 007, Entry Point B.
007
(Entry Point B)
Check for correct line address, line control procedure
(BSC, SS or SDLC), clocking and adapter type.
Functions of the PF Keys:
PF1 Key - moves the long arrow in the left margin to the option
           to be changed.
PF2 Key - moves the short arrow in the selected option field
           to the value to be changed.
PF3 Key - terminates the configuration data display/update
           without updating the configuration data in the processor
           or on the control diskette.
PF4 Key - display the configuration data of the next line address.
Is this a S/S (Start/Stop) line?
```

Y N

13SEP82 PN 8488499 EC 366582 PEC 366388

1215

7 5

A B REF.C.88FFF80
2 2
CA CONFIGURATION
PAGE 3 OF 8
008
Go to Page 4, Step 010, Entry Point H.
009
Go to Page 6, Step 015, Entry Point K.

1215 MAP 88FF-3

13SEP82 PN 8488499 EC 366582 PEC 366388

## REF.C.88FFFF80 CA CONFIGURATION

PAGE 4 OF 8

#### 010 (Entry Point H)

This is a synchronous line.
Select the proper options based on the following descriptions:

Switched Network - Select 'yes' if line is switched (a dial-up phone connection is required).

Perm. Request to Send - Select 'yes' if line is 4-wire leased (nonswitched), or if 2-wired duplex modems are used (switched or non-switched), or CPU is the master station in multipoint network.

Wrap Test Selection  Select 'MODEM' if modem has the capability to respond to the Test Control signal. (Check with modem manufacturer.) This option must match the jumper option installed on the EIA card.

Select Standby - This bit can be used if the modem has a switched network backup capability. select 'yes' if the switched network is to be used instead of leased line.

Modem Answer Tone  Select 2100 if CCITT answering frequency is required.
 This depends on ACU equipment at the remote location.

Select 2025 if WE202C or WE202D mode.
 This depends on ACU equipment at the remote location.

New Sync

 Select 'yes' only if modem that is attached uses
 'New Sync''. IBM 4972 and 3872/4/5 modems have this feature. For OEM modems, check with manufacturer.

EIB Mode

- (EIB = Error Index Byte) usually no. Check with customer's programmer (BSC line control only).

Data Signal Rate - This is used to select the speed of a dual speed Select external modem. This is normally set to high.

(Step 010 continues)

13SEP82 PN 8488499 EC 366582 PEC 366388 1215 MAP 88FF-4

#### REF.C.88FFFF80

#### CA CONFIGURATION

PAGE 5 OF 8

#### (Step 010 continued)

High Speed Operation

- Select 'yes' only if line speed is

greater than

9.6 KBPS (V35 or HSDI or high speed DDS or

high speed X.21 adapters only). This mode is valid for line 30 only.

Modem Procedure

- Usually 'DTR'. Check with modem manufacturer.

Data Code

- Usually 'EBCDIC'. Check with customer's programmer (BSC line control only).

NRZI

- Usually NRZI is on. Check with customer/ programmer (SDLC line control only).

#### Are there more CA lines to be configured?

Ν

011

(Entry Point C)

Do you want the changes to be written on the diskette (permanent changes)?

Y N

While holding ALTERNATE key, press PF3 key. (exit w/o update).

013

Press ENTER key. A Caution message appears. Press ENTER again. (Config. data will now be updated and written on diskette.) Note: To activate new configuration perform IML.

#### 014

While holding ALTERNATE key press PF4 key. Go to Page 2, Step 007, Entry Point B.

13SEP82

PN 8488499

EC 366582

PEC 366388

1215



### REF.C.88FFFF80 **CA CONFIGURATION**

PAGE 6 OF 8

#### 015 (Entry Point K)

Start/Stop Line Configuration

Select the proper options based on the following descriptions:

Switched Network - Select 'yes' if line is switched (a dial-up phone connection is required).

Send

Perm. Request to - Select 'yes' if line is 4-wire leased (nonswitched), or if 2-wire full duplex modems used (switched or non-switched), or if Break Feature used for 274X, or processor

is the master station in multipoint network.

Wrap Test Selection - Select 'MODEM' if the modem has the capability to respond to the 'Test Control' signal. (Check with modem manufacturer.) This option must match

the jumper option installed on the EIA card.

Select Standby

- Used only to select switched network backup (if installed). This is normally "no".

Modem Answer Tone

- Select 2100 if CCITT answering frequency is required. This depends on ACU equipment at the remote location.

\_\_\_\_\_

- Select 2025 if WE202C or WE202D mode. This depends on ACU equipment at the remote location.

Read Interrupt

- Specifies that the break command can be used on this line. The remote terminal must have the write interrupt capability and the line must have duplex facility. Check with customer's programmer or remote terminal CE for information.

(Step 015 continues)

13SEP82 PN 8488499 EC 366582 PEC 366388

1215

## REF.C.88FFFF80

1215 MAP 88FF-7

#### **CA CONFIGURATION**

PAGE 7 OF 8

(Step 015 continued)

Write Interrupt - Indicates that the attachment can recognize a break signal from the remote terminal. The line must have duplex facility. Check with the customer.

Unit Except Suppress

- Usually 'yes'.

Stop Bit(s)

- Select one or two stop bits. Check if the remote terminal requires one or two stop bits. This option is only for TTC-2. Two stop bits are normally used only

for 110 BPS.

Delay Select (Char.)

- If permanent Request To Send is 'yes' select '0',

except in case of multipoint where delay select

should to be used.

If permanent Request To Send is

'no', select '2'

or if faster turnaround is wanted, select '1'.

-----

Line Speed (BPS) - Select customer's desired speed. Hardware must be wired according to selected

speed. Refer to Vol. 14, STM FEAT,

section: CA,

(Adapter Interface Cards).

CR as Line

- If 'yes', then carriage return (CR) is used as Control Character control character in addition to the normal control characters causing the 'read' command to end with 'channel end' and 'device end'. This option is only for TTC-2.

- If 'no', normal control characters are used.

Are there more lines to be configured?

YN

016

Go to Page 5, Step 011, Entry Point C.

13SEP82

PN 8488499

EC 366582

PEC 366388

1215

7

# REF.C.88FFFF80 CA CONFIGURATION

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017

While holding ALTERNATE key, press PF4 Key. Go to Page 2, Step 007, Entry Point B.

1215

MAP 88FF-8

13SEP82

PN 8488499

EC 366582

PEC 366388

1215

## REF.CODE 89FXXX01 FIX 0001 CA UNIT CHECK LOG MAP

#### 101 1176 0001

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MAP 8900-1

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#### **ENTRY POINTS**

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8XXX	Α	1	. 001

001 (Entry Point A)

Go to Vol.14, STM FEAT, section: CA (CA Unit Check Log and Sense Byte Analysis).

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PN 8488106

EC 366582

PEC 366334

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MAP 8900-1